CONTROL DATA

60462210

AT478-A/B, AT481-A/B
IOU AND ASSOCIATED EQUIPMENT

BOARD TYPES:

- JQ
- JR
- JS
- JT
- CQ
- HK/JK
- JL
- JM
- JW
- KB
- HR

L4 DIAGRAMS

VOLUME 2, BOOK 2 OF 3

HARDWARE MAINTENANCE MANUAL

REVISION RECORD

REVISION	DESCRIPTION
A (08-20-86)	Preliminary release.
B (11-07-86)	Manual released and revised to include ECO 47746.
C (11-07-86)	Manual revised to include FCO 48197.
D (11-07-86)	Manual revised to include ECO 48326.
E (11-07-86)	Manual revised to include ECO 48400. This edition obsoletes all previous editions. This publication has been divided into two volumes (publication numbers 60462210 and 60463540).
F (06-15-87)	Manual revised to include ECO 48318, changes both versions of JA-01, -02, -06, -11, and -12.
G (06-15-87)	Manual revised to include ECO 48478, changes JK-01, -07, and -20.
H (06-15-87)	Manual revised to include ECO 48479, changes JZ(22113019)-01, -08 through -13, -22, -25, and -28 and deletes JZ(53575518)-01 through -29; ECO 48330, changes JD-01 and -05, JL-01 and -10, JQ-01 and -17, JR(53575515)-01 and -10, JR(22105675)-01, -09, and -10, both versions of JS-01 and -23, JT-01 and -08, JW(53575537)-01 and -17, and JX(53575512)-01 and -05. This edition also adds KX-01 through -21, KZ-01 through -22 LZ-01 through -23, and LX-01 through -13; and changes A-1 and A-2. ECO 48628, changes KZ-01, -02, -18, and -21; and ECO 48633, changes JK-01 and -22.
J (01-15-88)	Manual revised to include ECO 48633, affected diagrams (JK-01 and -22) included in revision H edition.
K (01-15-88)	Manual revised to include FCO 48632, changes both versions of JE/JV-01 and -04 through 07. This edition also includes ECOs 48483 and 48860. ECO 48483 changes JG (53575506) -01 and -09. ECO 48860 changes both versions of JF-01, 14, and 17; JE/JV (22105672) -01, 15, and 17; both versions of JC/JU-01, -19, and -22.
L (01-15-88)	Manual revised to include FCO 48862, changes KX-01, -05, -08, -09, -13, and -15; KZ-01, -16, and -18. This edition also includes ECOs 48855 and 49123. ECO 48855 changes LX-01, -08, -09, -11, and -12; LZ-01 and -21. ECO 49123 changes JQ-01, -03, -11, -12, -13, and -16; JM-01 and -26.
M (08-05-88)	Manual revised to include FCO 49637. Also includes ECOs 49486, 49487, and 49505. Changes pages 4-57, 4-75, 4-85, 4-97, 4-141, 4-153 through 4-157, 4-159, 4-171 through 4-175, 4-199, 4-212, 4-217, and 4-219 in book 1; 4-431, 4-432, 4-473 through 4-502, 4-527, 4-540, 4-555, 4-557, 5-576, 4-595, 4-597, 4-608, and 4-616 in book 2; 4-725, 4-726, 5-755, 4-776, 4-783, 4-804, 4-841, 4-868, 4-927, 4-935, and 4-936 in book 3.
N (08-05-88)	Field Change Order 49705. No change to manual.
P (08-05-88)	Manual revised to include ECO 49723. Changes pages 4-660 in book 2; A-1 and A-2 in book 3. Pages 4-660.1 through 4-660.12 in book 2 are added.

Publication No.
60462210

REVISION LETTERS I, O, Q, S, X AND Z ARE NOT USED.

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St. Paul, Minnesota 55126-6198

or use Comment Sheet in the back of
this manual.

REVISION RECORD

REVISION	DESCRIPTION

Publication No.
60462210

MANUAL TO EQUIPMENT LEVEL CORRELATION SHEET

This manual reflects the equipment configurations listed below.

EXPLANATION: Locate the equipment type and series number, as shown on the equipment FCO log, in the list below. Immediately to the right of the series number is an FCO number. If that number and all of the numbers underneath it match all of the numbers on the equipment FCO log, then this manual accurately reflects the equipment.

EQUIPMENT TYPE	SERIES	WITH FCOs	COMMENTS
AT478-A	01	-	Released
	02	47441	
	03	47450	
	04	ECO 47840	
	05	47727	
	06	47740	
	07	47748	
	08	48197	
	09	48326	
	10	48400	
	11	48318	
	12	48478	
	13	48631	
	14	48632	
	15	ECO 48404	
AT478-B	01	-	Released
AT481-A	01	-	Released
	02	ECO 47840	
	03	47748	
	04	48326	
	05	48400	
	06	48318	
	07	ECO 48494	
	08	48632	
	09	ECO 49485	
AT481-B	01	-	Released
AT482-A	01	-	Released
	02	ECO 49485	
	03	ECO 49494	
AT482-B	01	-	Released
AT490-A	01	-	Released
	02	48479	
	03	ECO 49485	
	04	ECO 49484	
AT490-B	01	-	Released
AT497-A	01	-	Released
	02	ECO 49485	
	03	49637	
	04	ECO 49494	
AT497-B	01	-	Released
AT498-A	01	-	Released
	02	48862	
	03	ECO 49485	
	04	ECO 49494	
AT498-B	01	-	Released
AT501-A	01	-	Released
AT501-B	01	-	Released
AT501-C	01	-	Released
AT509-A	01	-	Released
AT510-A	01	-	Released

PREFACE

This manual contains the multi-level diagram set for:

- AT478-A Non-Concurrent Input/Output Unit (NIO)
- AT478-B Non-Concurrent Input/Output Unit (NIO)
- AT481-A 1st Concurrent PP Increment Input/Output Unit (CIO)
- AT481-B 1st Concurrent PP Increment Input/Output Unit (CIO)
- AT482-A 2nd Concurrent PP Increment Input/Output Unit (CIO)
- AT482-B 2nd Concurrent PP Increment Input/Output Unit (CIO)
- AT490-A Intelligent Standard Interface (ISI) Channel Adapter
- AT490-B Intelligent Standard Interface (ISI) Channel Adapter
- AT497-A Intelligent Peripheral Interface (IPI) Channel Adapter
- AT497-B Intelligent Peripheral Interface (IPI) Channel Adapter
- AT498-A Direct Memory Access (DMA) Enhanced C170 Channel Adapter
- AT498-B Direct Memory Access (DMA) Enhanced C170 Channel Adapter
- AT501-A CYBER 990 Secondary I4 Conversion Kit
- AT501-B CYBER 840/850/860 Secondary I4 Conversion Kit
- AT501-C CYBER 992 Secondary I4 Conversion Kit
- AT509-A I4 to PIP3 CM Interface
- AT510-A I4 to 8XX/990 CM Interface

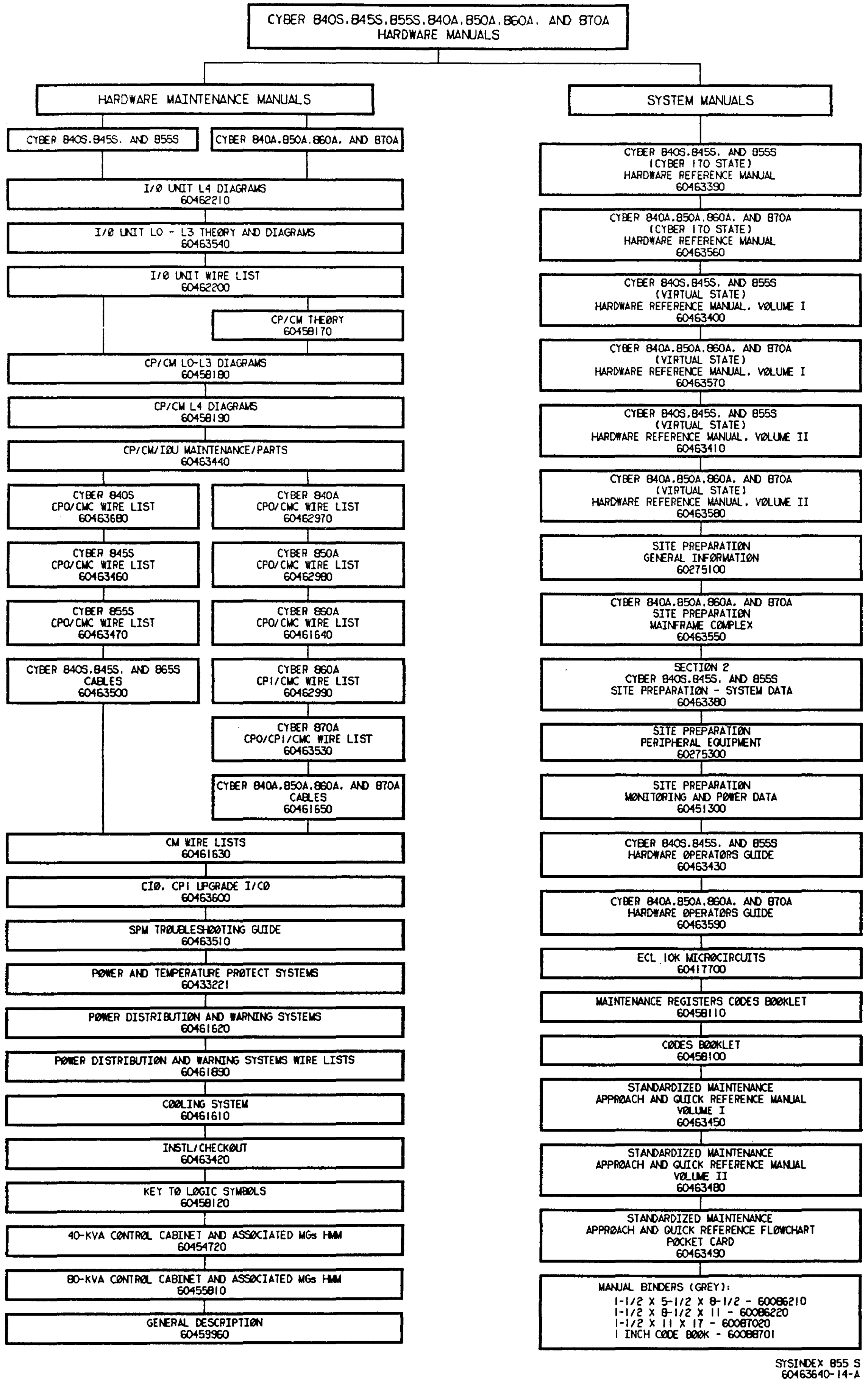
Level 4 diagrams consist of logic diagrams for each board in panels A through D. Where a board is used in more than one location, the signal names (both English names and the six-character identifiers used in the wire list) shown on the level 4 diagram apply to the first occurrence of that board only. The first occurrence is the location that is listed first on the board's level 4 diagram cover sheet. Most pins on multi-occurrence boards have a parallel function that can be determined by referring to the wire list and to level 2 diagrams.

CAUTION

Some boards have two layouts, both of which are used and supported. The two layouts for each of these boards are included in this manual. It is important to check the board number in your unit and compare it to the board master (B/M) number on the appropriate level 4 diagram to be sure they match.

The System Publication Indexes on the following page include other manuals that are applicable to the equipment.

SYSTEM PUBLICATION INDEX


CYBER 840S,845S,855S,840A,850A,860A, AND 870A HARDWARE MANUALS
HARDWARE MAINTENANCE MANUALS
CYBER 840S,845S, AND 855S
CYBER 840A,850A,860A, AND 870A
I/O UNIT L4 DIAGRAMS 60462210
I/O UNIT LO - L3 THEORY AND DIAGRAMS 60463540
I/O UNIT WIRE LIST 60462200
CP/CM THEORY 60458170
CP/CM LO-L3 DIAGRAMS 60458180
CP/CM L4 DIAGRAMS 60458190
CP/CM/IOU MAINTENANCE/PARTS 60463440
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CYBER 840A CPO/CMC WIRE LIST 60462970
CYBER 845S CPO/CMC WIRE LIST 60463460
CYBER 850A CPO/CMC WIRE LIST 60462980
CYBER 855S CPO/CMC WIRE LIST 60463470
CYBER 860A CPO/CMC WIRE LIST 60461640
CYBER 840S,845S, AND 865S CABLES 60463500
CYBER 860A CPI/CMC WIRE LIST 60462990
CYBER 870A CPO/CPI/CMC WIRE LIST 60463530
CYBER 840A,850A,860A, AND 870A CABLES 60461650
CM WIRE LISTS 60461630
CIO, CPI UPGRADE I/CO 60463600
SPM TROUBLESHOOTING GUIDE 60463510
POWER AND TEMPERATURE PROTECT SYSTEMS 60433221
POWER DISTRIBUTION AND WARNING SYSTEMS 60461620
POWER DISTRIBUTION AND WARNING SYSTEMS WIRE LISTS 60461690
COOLING SYSTEM 60461610
INSTL/CHECKOUT 60463420
KEY TO LOGIC SYMBOLS 60458120
40-KVA CONTROL CABINET AND ASSOCIATED MGs HMM 60454720
80-KVA CONTROL CABINET AND ASSOCIATED MGs HMM 60455810
GENERAL DESCRIPTION 60459960
SYSTEM MANUALS
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CYBER 840A,850A,860A, AND 870A (CYBER 170 STATE) HARDWARE REFERENCE MANUAL 60463560
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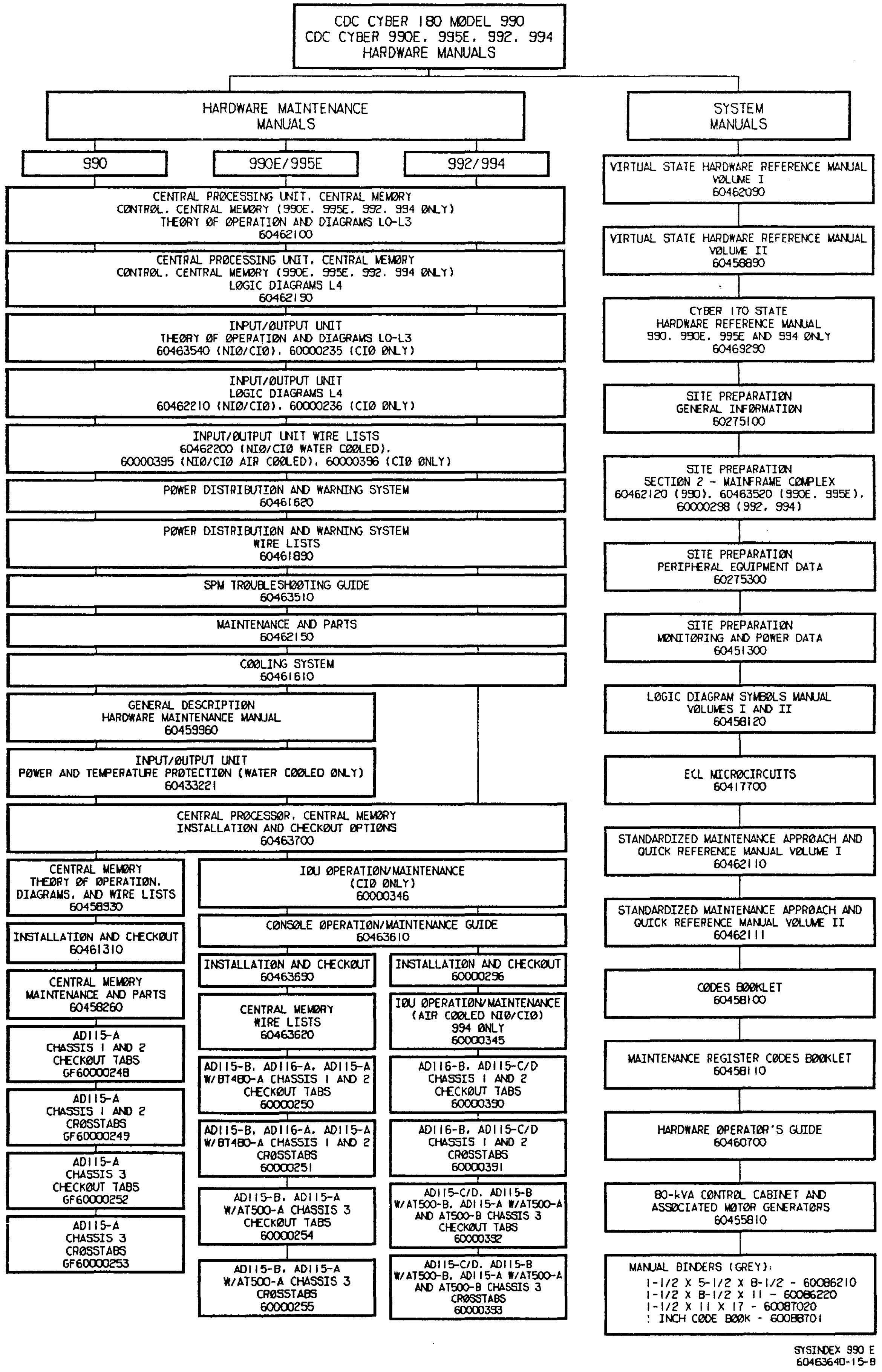
SITE PREPARATION PERIPHERAL EQUIPMENT 60275300
SITE PREPARATION MONITORING AND POWER DATA 60451300
CYBER 840S,845S, AND 855S HARDWARE OPERATORS GUIDE 60463430
CYBER 840A,850A,860A, AND 870A HARDWARE OPERATORS GUIDE 60463590
ECL 10K MICROCIRCUITS 60417700
MAINTENANCE REGISTERS CODES BOOKLET 60458110
CODES BOOKLET 60458100
STANDARDIZED MAINTENANCE APPROACH AND QUICK REFERENCE MANUAL VOLUME I 60463450
STANDARDIZED MAINTENANCE APPROACH AND QUICK REFERENCE MANUAL VOLUME II 60463480
STANDARDIZED MAINTENANCE APPROACH AND QUICK REFERENCE FLOWCHART POCKET CARD 60463490
MANUAL BINDERS (GREY): 1-1/2 X 5-1/2 X 8-1/2 - 60086210 1-1/2 X 8-1/2 X 11 - 60086220 1-1/2 X 11 X 17 - 60087020 1 INCH CODE BOOK - 60088701
SYSINDEX 855 S 60463640-14-A

SYSTEM PUBLICATION INDEX


CDC CYBER 180 MODEL 990 CDC CYBER 990E, 995E, 992, 994 HARDWARE MANUALS
HARDWARE MAINTENANCE MANUALS
990
990E/995E
992/994
CENTRAL PROCESSING UNIT, CENTRAL MEMORY CONTROL, CENTRAL MEMORY (990E, 995E, 992, 994 ONLY) THEORY OF OPERATION AND DIAGRAMS LO-L3 60462100
CENTRAL PROCESSING UNIT, CENTRAL MEMORY CONTROL, CENTRAL MEMORY (990E, 995E, 992, 994 ONLY) LOGIC DIAGRAMS L4 60462190
INPUT/OUTPUT UNIT THEORY OF OPERATION AND DIAGRAMS LO-L3 60463540 (NIO/CIO), 60000235 (CIO ONLY)
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GENERAL DESCRIPTION HARDWARE MAINTENANCE MANUAL 60459960
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AD116-B, AD115-C/D CHASSIS 1 AND 2 CHECKOUT TABS 60000390
AD116-B, AD115-C/D CHASSIS 1 AND 2 CROSSTABS 60000391
AD115-C/D, AD115-B W/AT500-B, AD115-A W/AT500-A AND AT500-B CHASSIS 3 CHECKOUT TABS 60000392
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VIRTUAL STATE HARDWARE REFERENCE MANUAL VOLUME II 60458890
CYBER 170 STATE HARDWARE REFERENCE MANUAL 990, 990E, 995E AND 994 ONLY 60469290
SITE PREPARATION GENERAL INFORMATION 60275100
SITE PREPARATION SECTION 2 - MAINFRAME COMPLEX 60462120 (990), 60463520 (990E, 995E), 60000298 (992, 994)
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SITE PREPARATION MONITORING AND POWER DATA 60451300
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80-kVA CONTROL CABINET AND ASSOCIATED MOTOR GENERATORS 60455810
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SYSINDEX 990 E 60463640-15-B

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2. LEVEL 2 DIAGRAMS 2-1
3A. LEVEL 3 DIAGRAMS 3A-1
3B. 170 DMA LEVELS 0-3 3B-1
3C. IPI LEVELS 0-3 3C-1

APPENDIX

A ABBREVIATIONS A-1

VOLUME 2

4. LEVEL 4 DIAGRAMS①

BOOK 1

Panel A

JA† 53575500. 4-1
JA† 22105670. 4-15
JC/JU 53575502. 4-29
JC/JU 22105671. 4-57
JD 4-85
JE/JV 53575504. 4-101
JE/JV 22105672. 4-121
JF 53575505. 4-141
JF 22105620. 4-159
JG 53575506. 4-177
JG 22105673. 4-199
JH 53575507. 4-221
JH 22105679. 4-251
JJ 53575508. 4-281
JJ 22105674. 4-305

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① Two sets of logic diagrams are provided for a board that has two layouts. The appropriate logic diagram set has a board master (B/M) number that matches the printed wiring board (PWB) number of the board.

†Also in panel C.

BOOK 2

Panel A

JQ 4-329
JR 53575515. 4-351
JR 22105675. 4-363
JS† 53575516. 4-375
JS† 22130333. 4-403
JT† 4-431
HR 4-660.1

Panel B

CQ 4-447
HK/JK 4-473
JL 4-503
JM 4-527
JW†† 53575537. 4-555
JW 22105621. 4-595
KB†† 4-635
KR (Diagrams are located in book 3)

BOOK 3

Panels C and D

KR††† 4-661
JX 53575512. 4-695
JX 22105623. 4-725
JY 53575513. 4-755
JY 22105622. 4-783
JZ 4-841
KA 22127690. 4-871
KA 22105610. 4-877
KX 4-883
KZ 4-905
LX 4-927
LZ 4-941

APPENDIX

A PANEL MAPS A-1

---

†Also in panel D.
††Also in panels C and D.
†††Also in panel B

1JQH MAC BOARD

REVISION HISTORY B/M 41652901

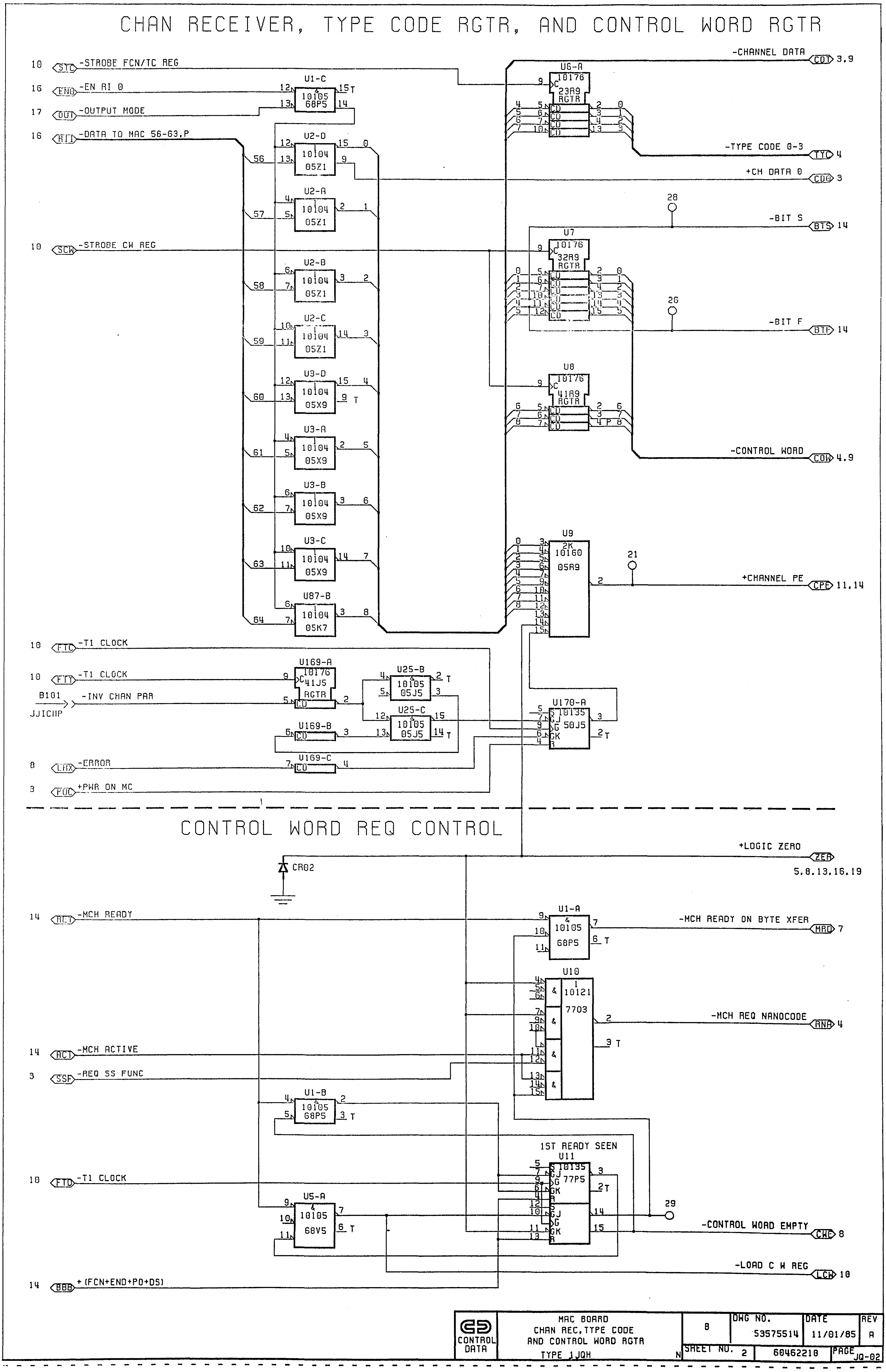
DATE	REV	DESCRIPTION OF CHANGE	INIT
11/01/85	A	CLASS A RELEASE OF LOGIC DIAGRAMS	WED
07/07/86	B	ECO #47746 ADDS B/M NO. TO SHT 1.	LHJ
01/12/87	C	ECO #48330 PAGE 17	SLP
08/24/87	D	ECO #49123 PAGES 3,11,12,13 & 16	

DWN	L H JOHNSON	11/01/85
CHKD	D R FORD	12/04/85
ENG	W E DIETHART	12/05/85
PUBS	R K BONDE	12/05/85
APP	W E DIETHART	12/05/85

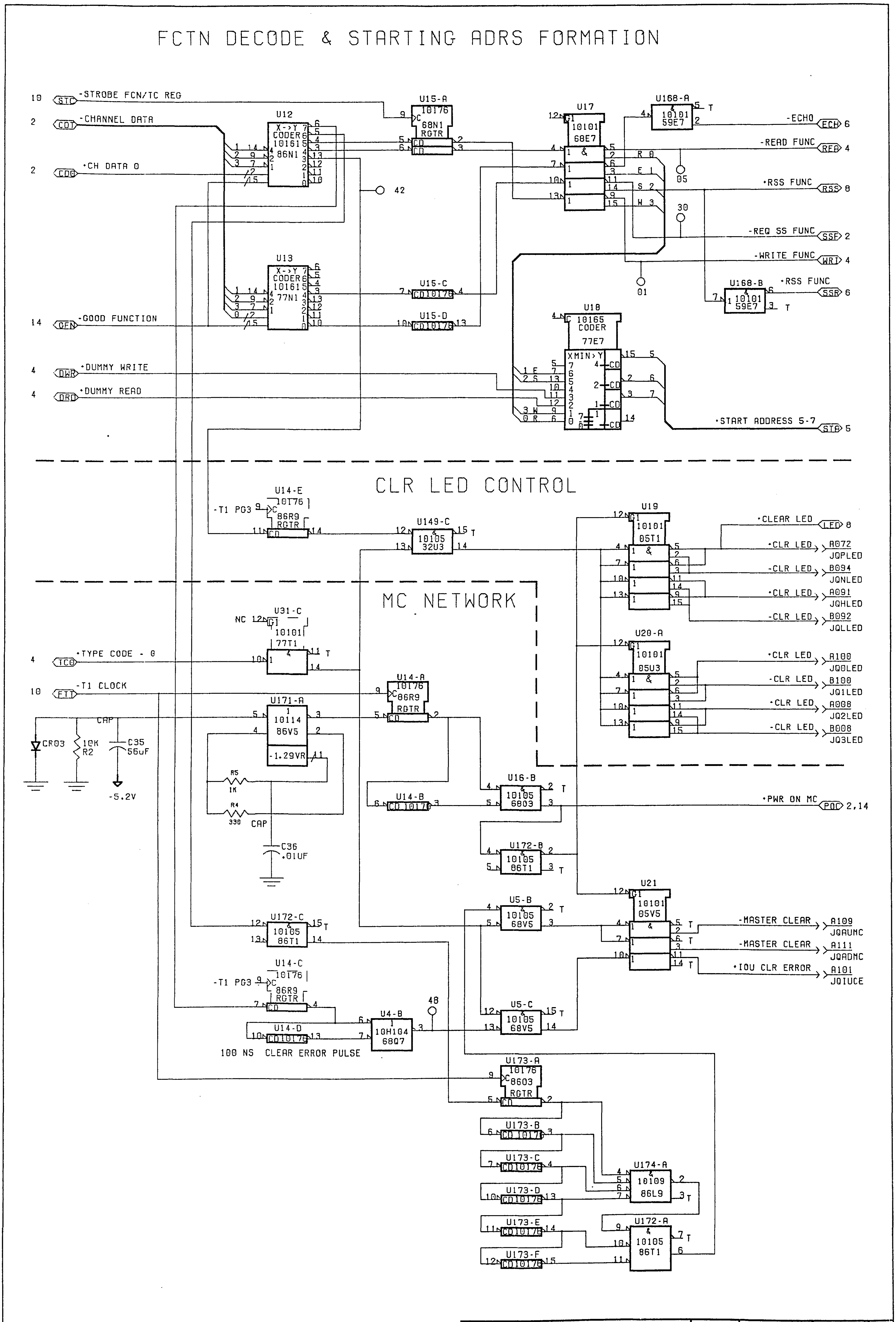
NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

LOC: A22

CONTROL DATA	REVISION HISTORY TYPE 1JQH	B	DWG NO. 53575514	DATE 08/24/87	REV D
		SHEET NO. 1	60462210	PAGE JQ-01	



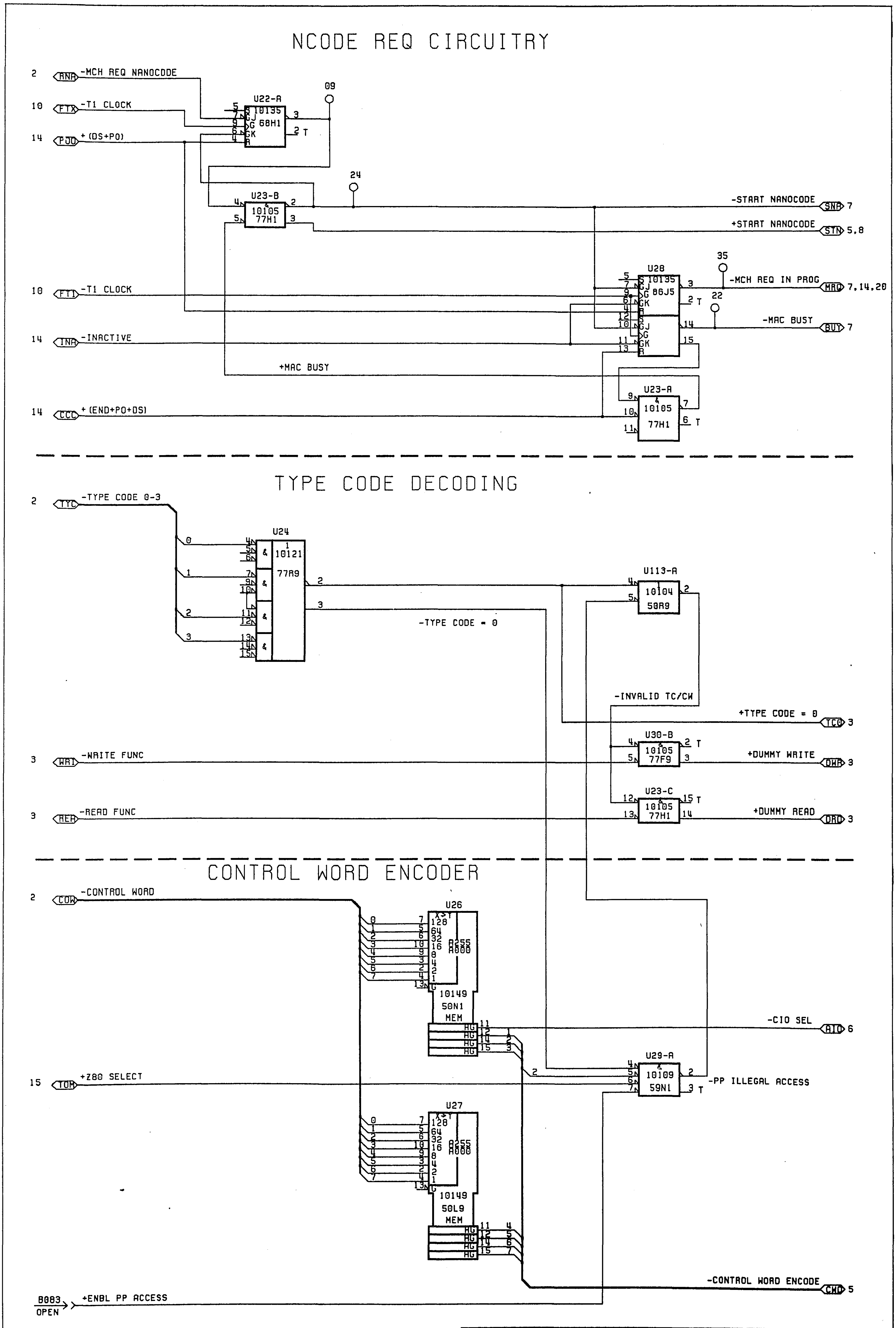
CONTROL DATA	MAC BOARD CHAN REC,TYPE CODE AND CONTROL WORD RGTR TYPE 1JQH	B	DWG NO. 53575514	DATE 11/01/85	REV A
		SHEET NO. 2	60462210	PAGE JQ-02	



CONTROL DATA

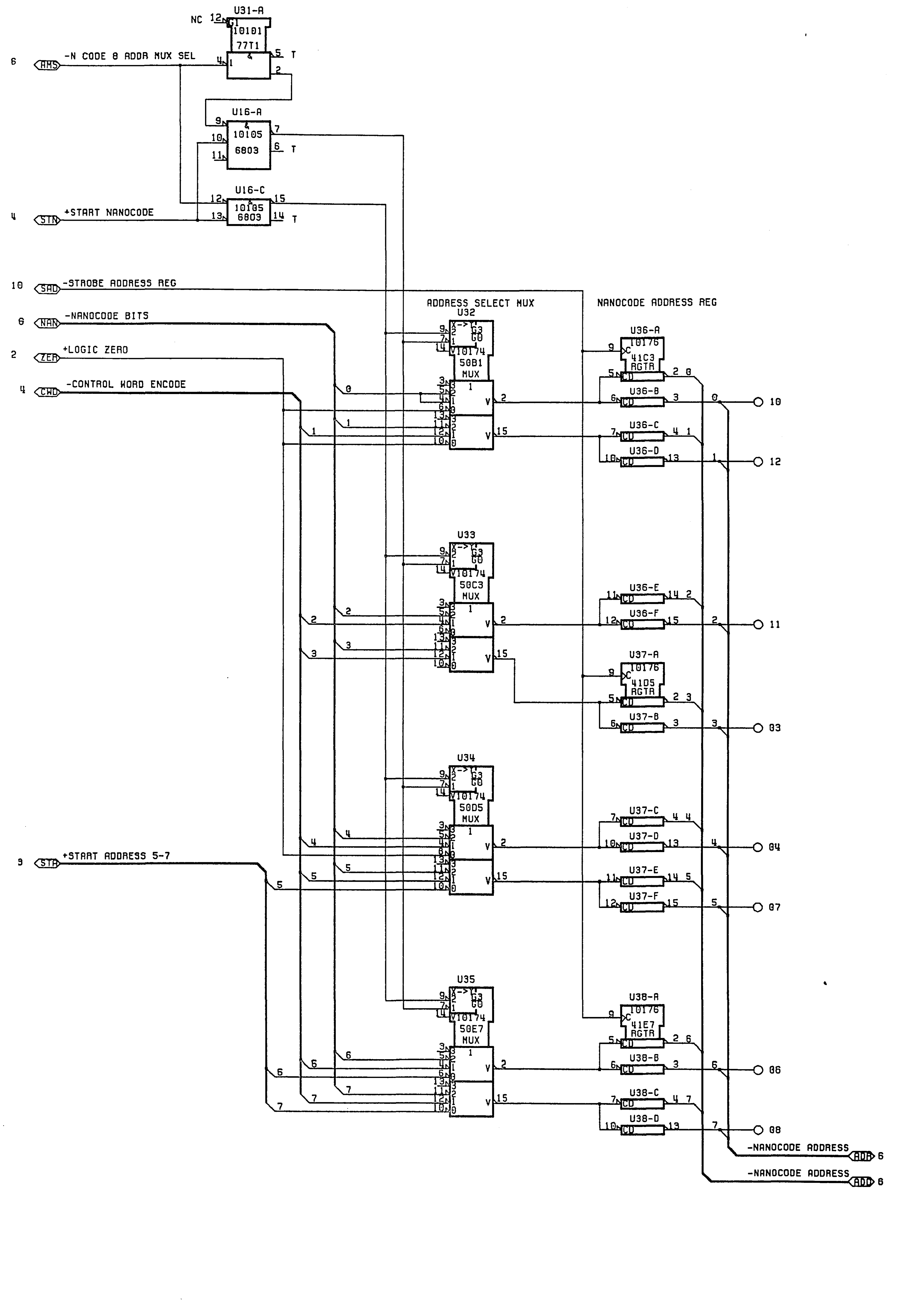
MAC BOARD
FUNC DECODE & START ADDR FORM,
CLEAR LEDS & MC AND CLR ERRORS
TYPE 1JQH

B	DWG NO. 53575514	DATE 08/24/87	REV D
SHEET NO. 3	60462210	PAGE JQ-03	



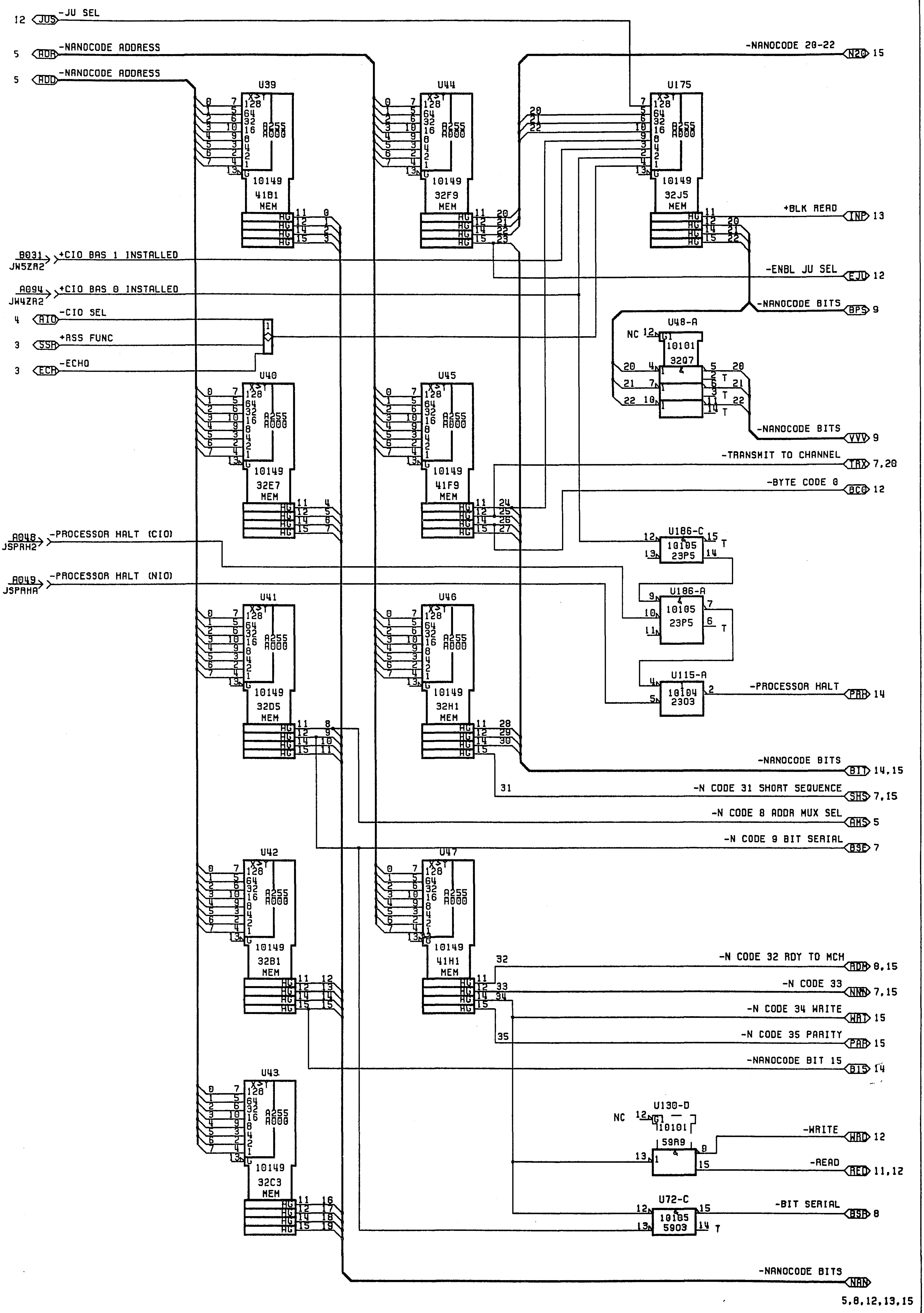
CONTROL DATA	MAC BOARD NANOCODE REQ/TYPE CODE DECODING AND CONTROL WORD ENCODING TYPE 1JQH	B	DWG NO. 53575514	DATE 11/01/85	REV A
			SHEET NO. 4	60462210	PAGE JQ-04

NCODE ADRS FORMATION



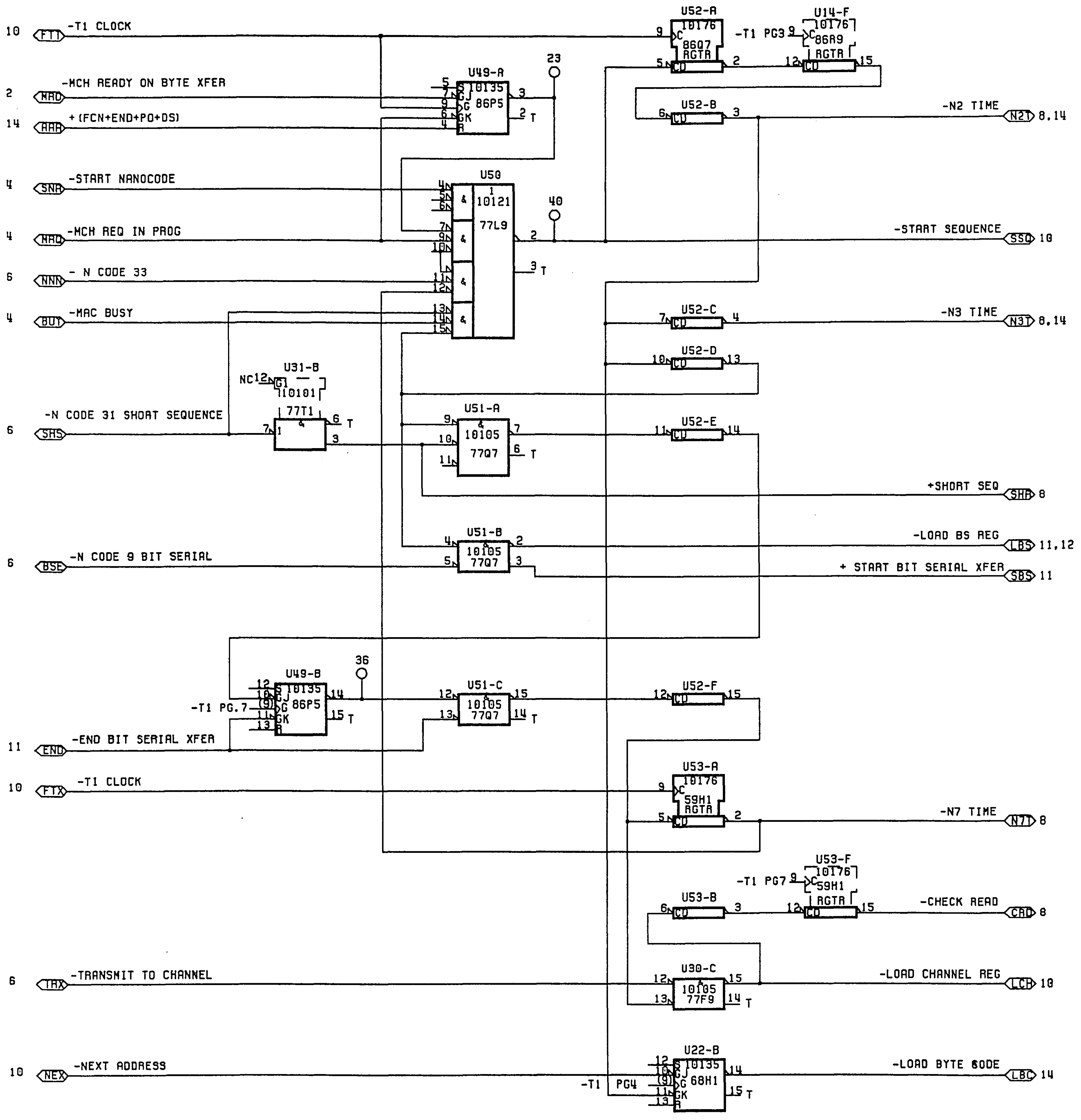
CONTROL DATA	MAC BOARD NANOCODE ADDRESS FORMATION	B	DWG NO. 53575514	DATE 11/01/85	REV A
	TYPE 1J0H	N	SHEET NO. 5	60462210	PAGE JQ-05

NCODE ROMS



CONTROL DATA	MAC BOARD NANOCODE ROMS TYPE 1JAH	B	DWG NO. 53575514	DATE 11/01/85	REV A
		SHEET NO. 6	60462210	PAGE JQ-08	

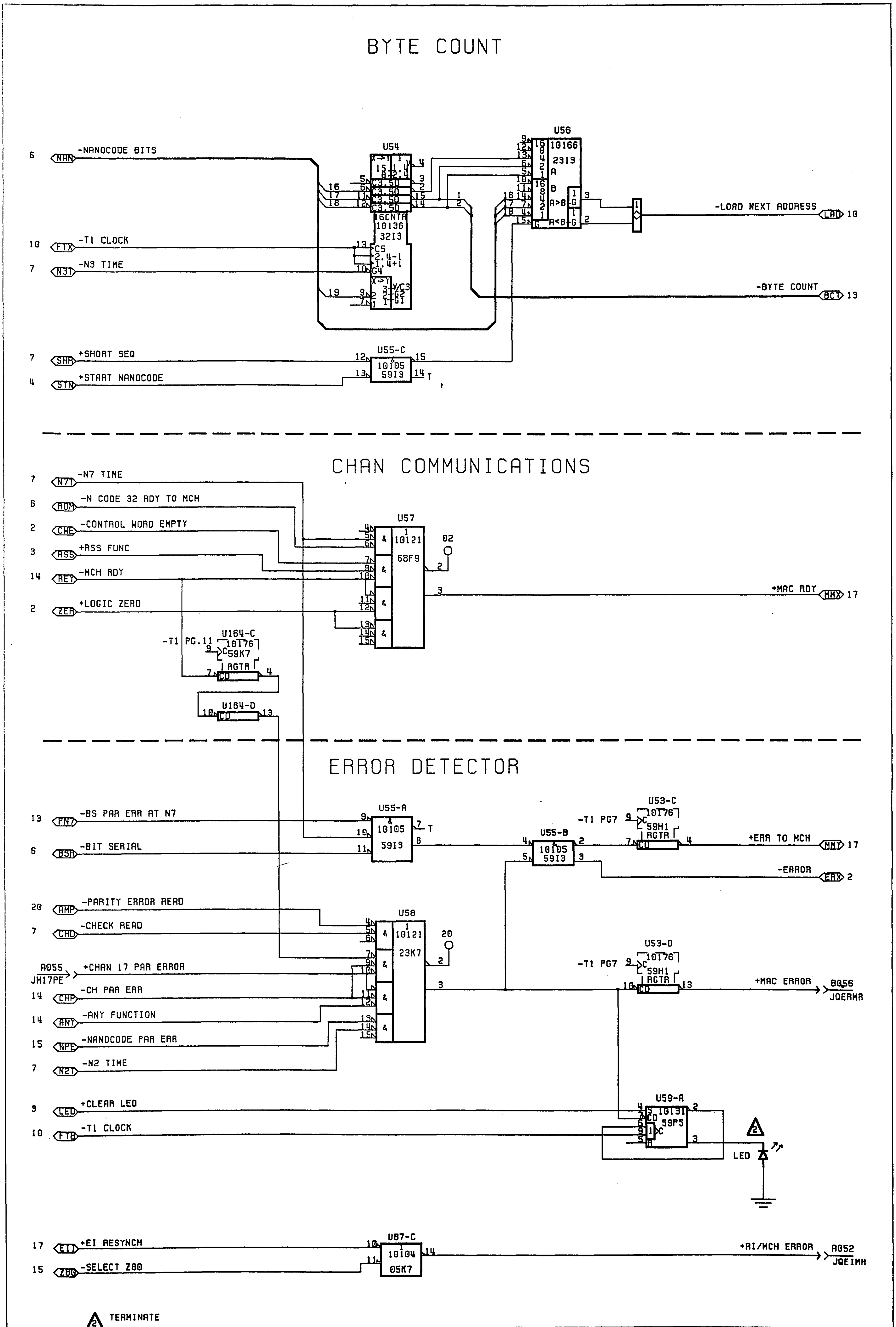
MAC TIMING



CONTROL DATA

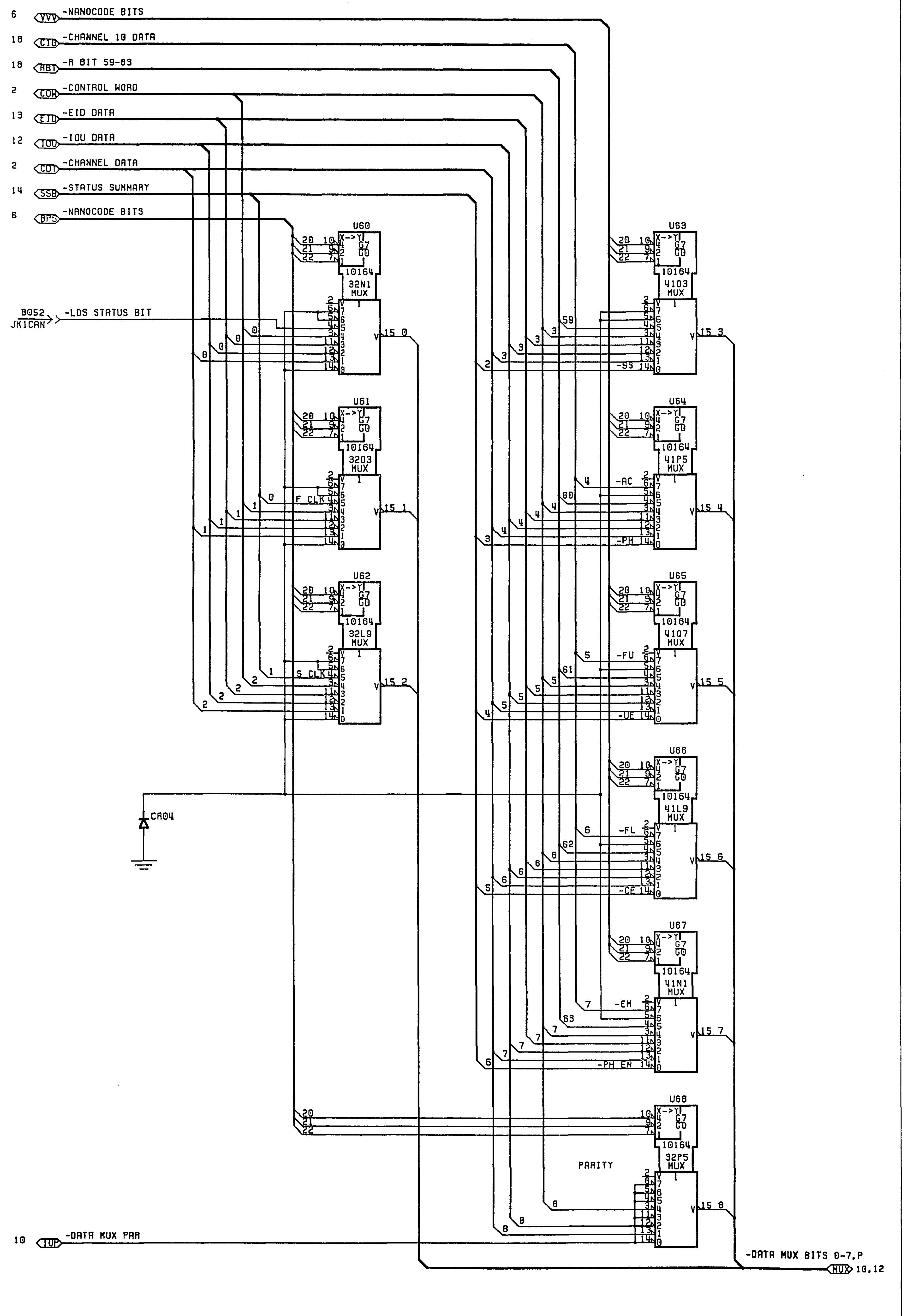
MAC BOARD
MAC TIMING
TYPE 1JQH

B	DWG NO.	DATE	REV
	53575514	11/01/85	A
SHEET NO. 7	60462210	PAGE JQ-07	



CONTROL DATA	MAC BOARD BYTE COUNT, ERROR DETECTION AND CHANNEL COMMUNICATIONS TYPE 1JQH	B	DWG NO. 53575514	DATE 11/01/85	REV A
	N	SHEET NO. 8	60462210	PAGE JQ-08	

DATA MUX BITS 0-7 & PAR



CONTROL DATA

MAC BOARD
DATA MUX BITS 0-7 & P
TYPE 1JQH

B

DWG NO. 53575514

DATE 11/01/85

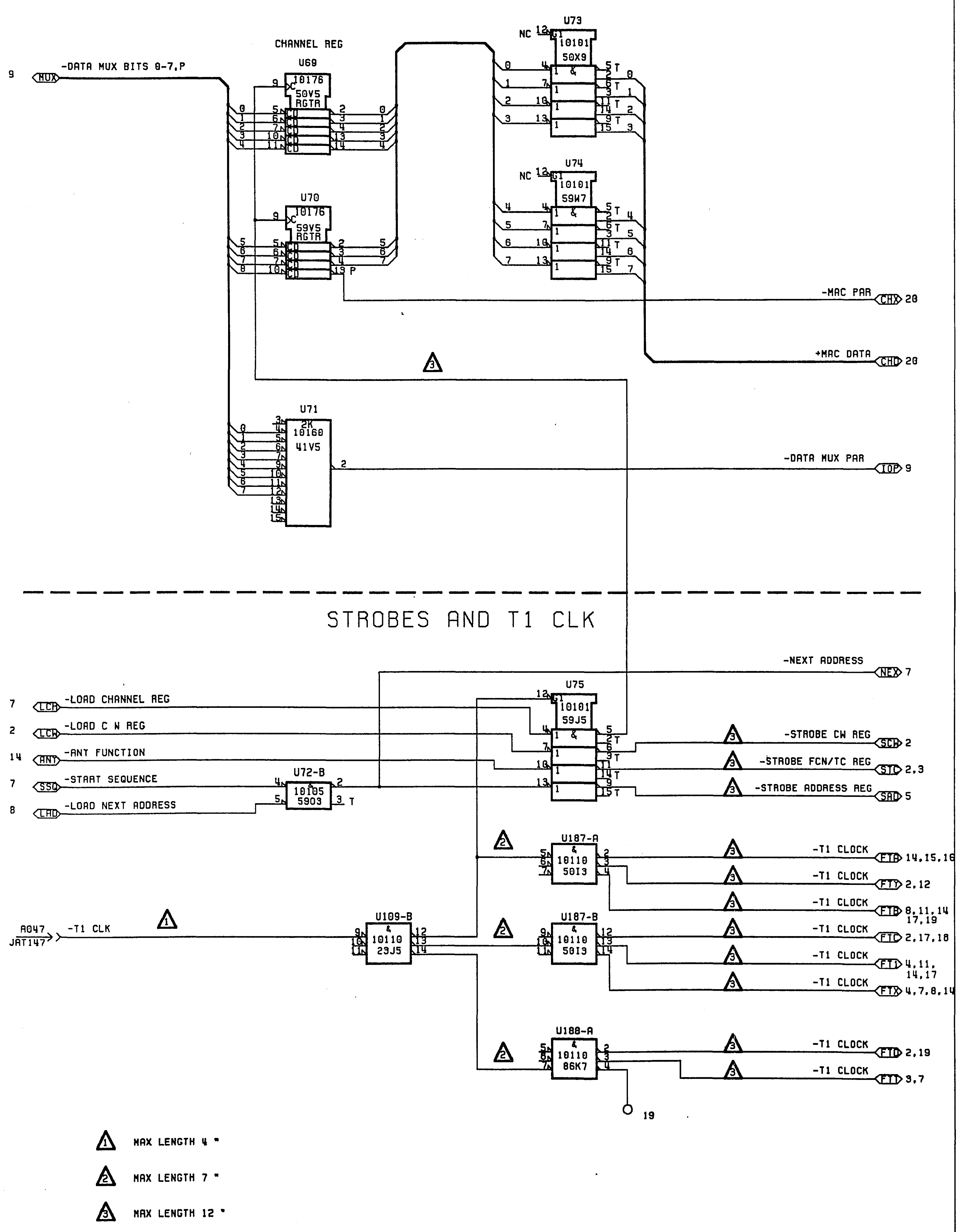
REV A

SHEET NO. 9

60462210

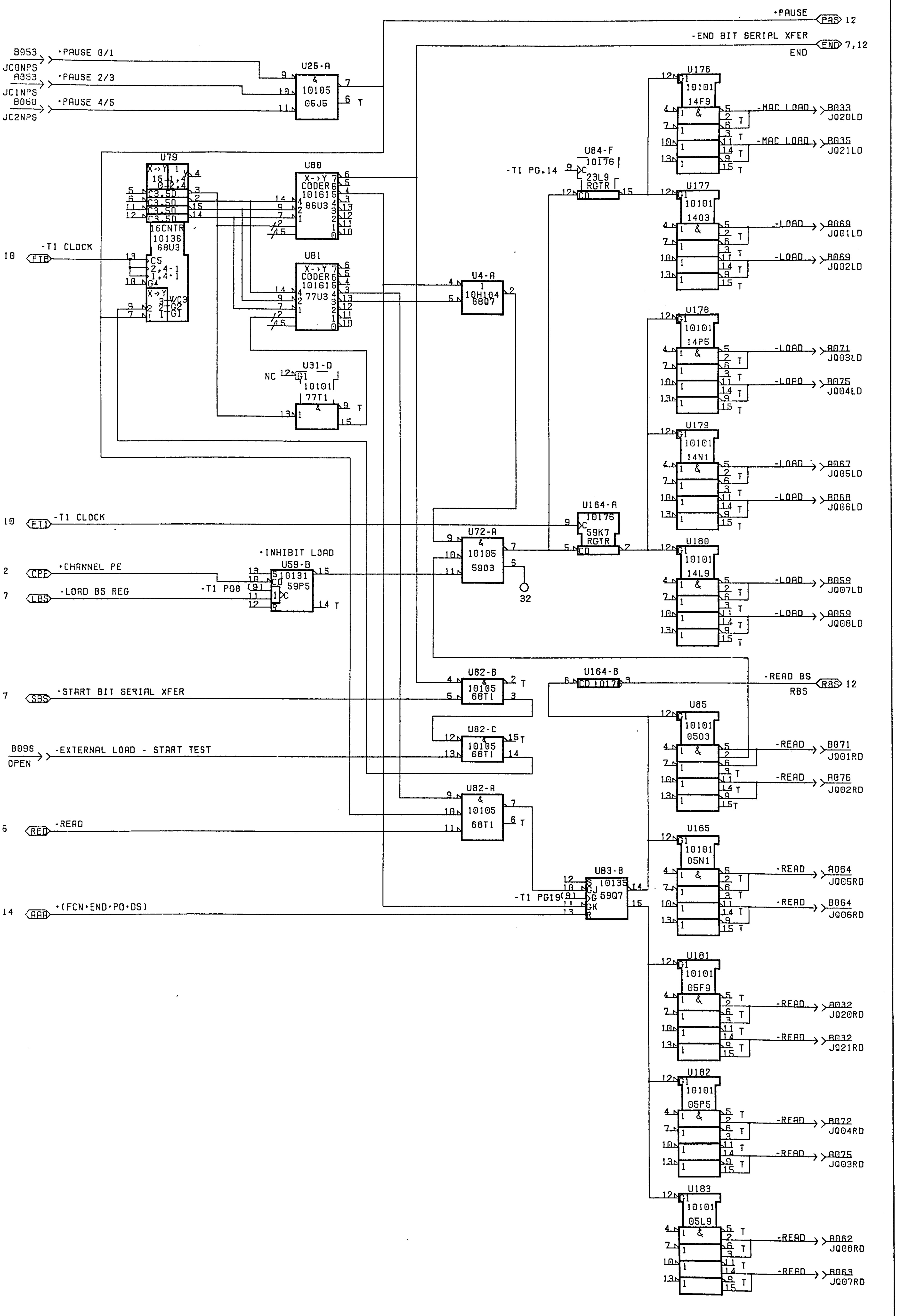
PAGE JQ-09

CHAN IN / OUT



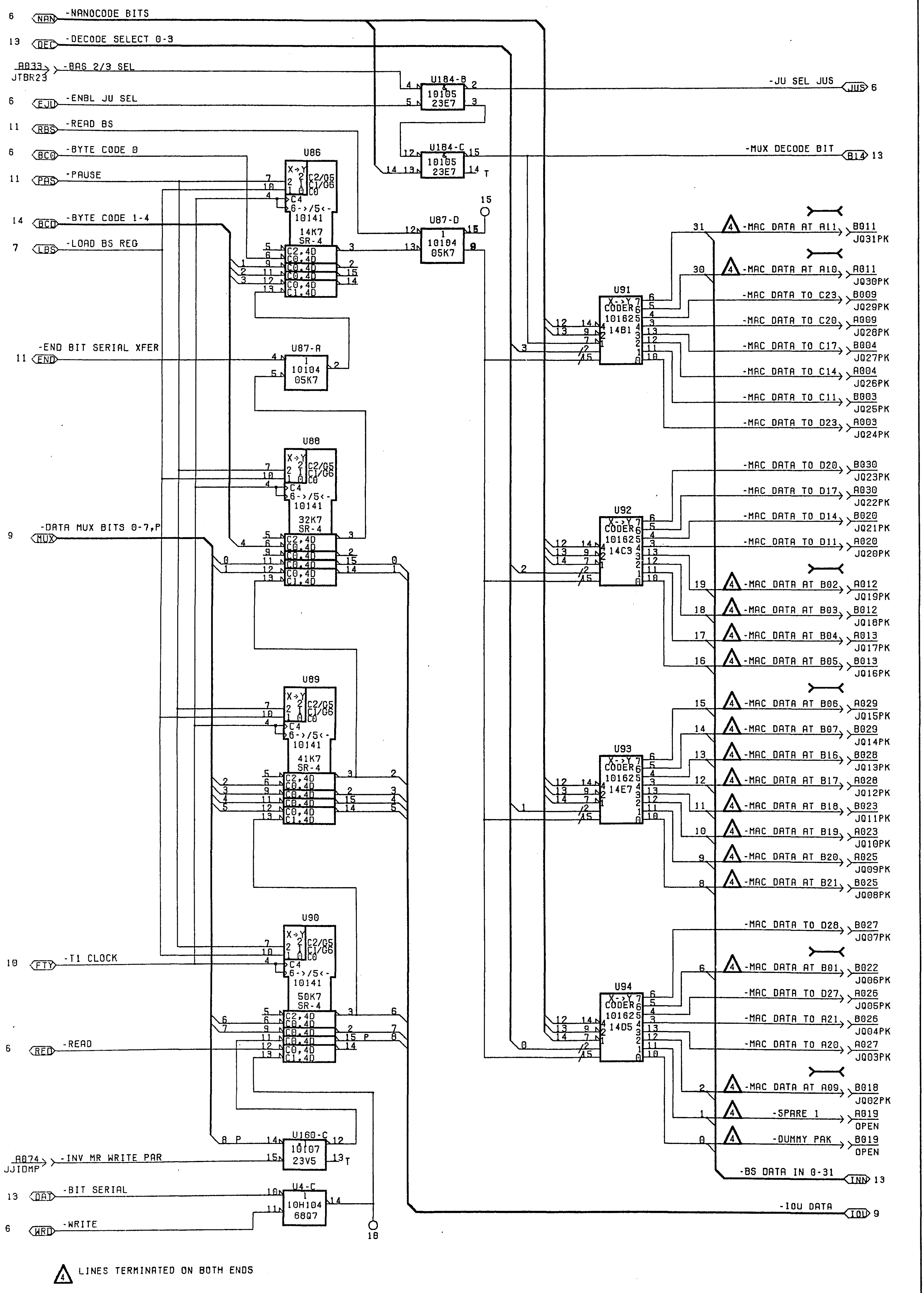
CONTROL DATA	MAC BOARD CHANNEL REGISTER IN / OUT STROBES AND CLOCK F/O TYPE 1JQH	B	DWG NO. 53575514	DATE 11/01/85	REV A
		SHEET NO. 18	60462210	PAGE JQ-18	

BIT-SERIAL CONTROL



CONTROL DATA	MAC BOARD BIT-SERIAL CONTROL TYPE 1JQH	B	DWG NO. 53575514	DATE 08/24/87	REV D
		SHEET NO. 11	60462210	PAGE JQ-11	

SERIAL / PARALLEL SHIFTER AND PAK SEL

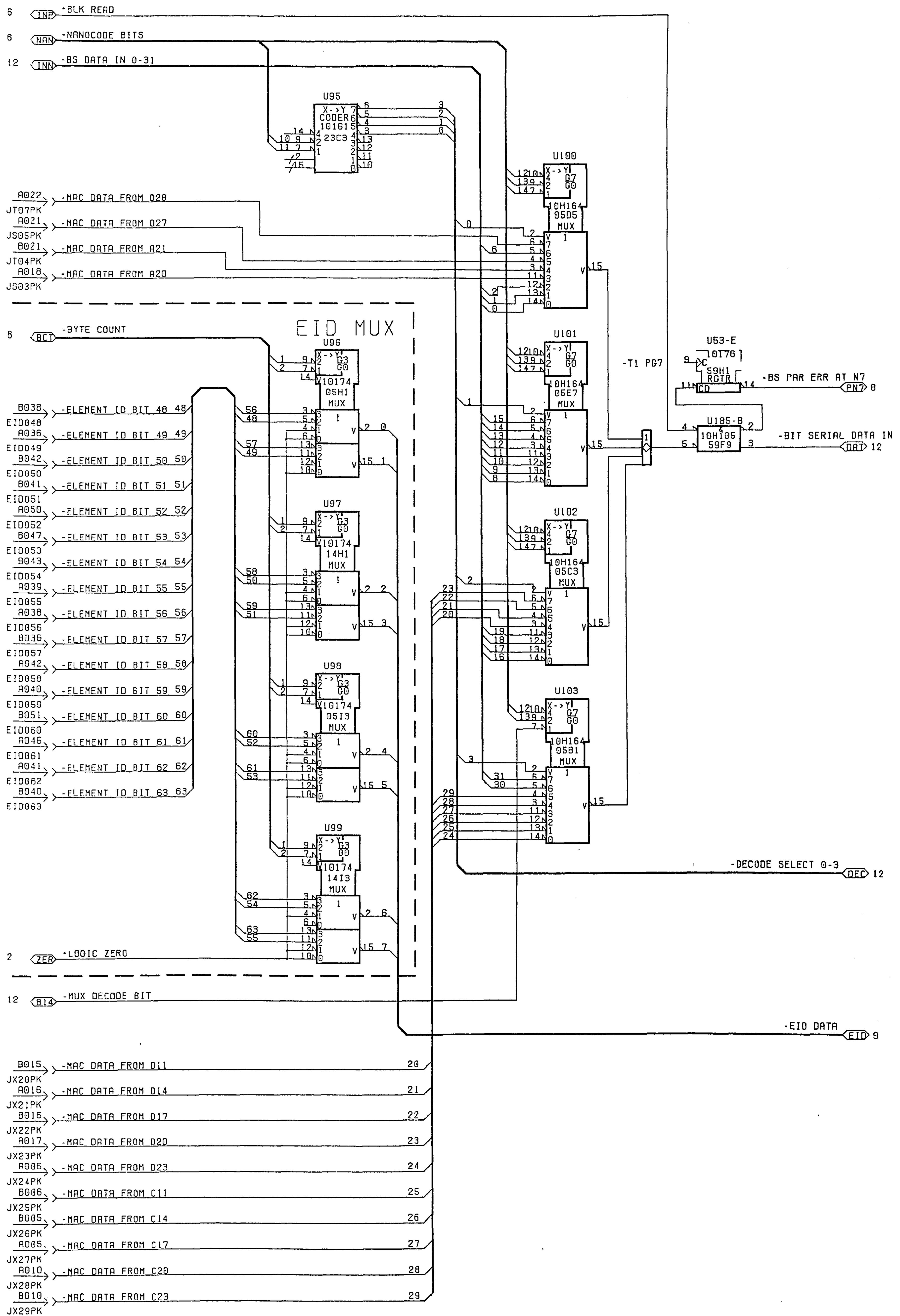


-NANOCODE BITS
-DECODE SELECT 0-3
A033 -BAS 2/3 SEL
JTBR23
-ENBL JU SEL
-READ BS
-BYTE CODE 0
-PAUSE
-BYTE CODE 1-4
-LOAD BS REG
-END BIT SERIAL XFER
-DATA MUX BITS 0-7,P
-T1 CLOCK
-READ
A074 -INV MR WRITE PAR
JJIDMP
-BIT SERIAL
-WRITE
U184-B 10105 23E7
U184-C 10105 23E7
U87-D 10104 05K7
U87-A 10104 05K7
U86 10141 14K7 SR-4
U88 10141 32K7 SR-4
U89 10141 41K7 SR-4
U90 10141 50K7 SR-4
U160-C 10107 23V5
U4-C 10H104 68Q7
U91 CODER 101625 14B1
U92 CODER 101625 14C3
U93 CODER 101625 14E7
U94 CODER 101625 14D5
-JU SEL JUS
-MUX DECODE BIT
-MAC DATA AT A11 B011 J031PK
-MAC DATA AT A10 A011 J030PK
-MAC DATA TO C23 B009 J029PK
-MAC DATA TO C20 A009 J028PK
-MAC DATA TO C17 B004 J027PK
-MAC DATA TO C14 A004 J026PK
-MAC DATA TO C11 B003 J025PK
-MAC DATA TO D23 A003 J024PK
-MAC DATA TO D20 B030 J023PK
-MAC DATA TO D17 A030 J022PK
-MAC DATA TO D14 B020 J021PK
-MAC DATA TO D11 A020 J020PK
-MAC DATA AT B02 A012 J019PK
-MAC DATA AT B03 B012 J018PK
-MAC DATA AT B04 A013 J017PK
-MAC DATA AT B05 B013 J016PK
-MAC DATA AT B06 A029 J015PK
-MAC DATA AT B07 B029 J014PK
-MAC DATA AT B16 B028 J013PK
-MAC DATA AT B17 A028 J012PK
-MAC DATA AT B18 B023 J011PK
-MAC DATA AT B19 A023 J010PK
-MAC DATA AT B20 A025 J009PK
-MAC DATA AT B21 B025 J008PK
-MAC DATA TO D28 B027 J007PK
-MAC DATA AT B01 B022 J006PK
-MAC DATA TO D27 A026 J005PK
-MAC DATA TO A21 B026 J004PK
-MAC DATA TO A20 A027 J003PK
-MAC DATA AT A09 B018 J002PK
-SPARE 1 A019 OPEN
-DUMMY PAK B019 OPEN
-BS DATA IN 0-31
-IOU DATA

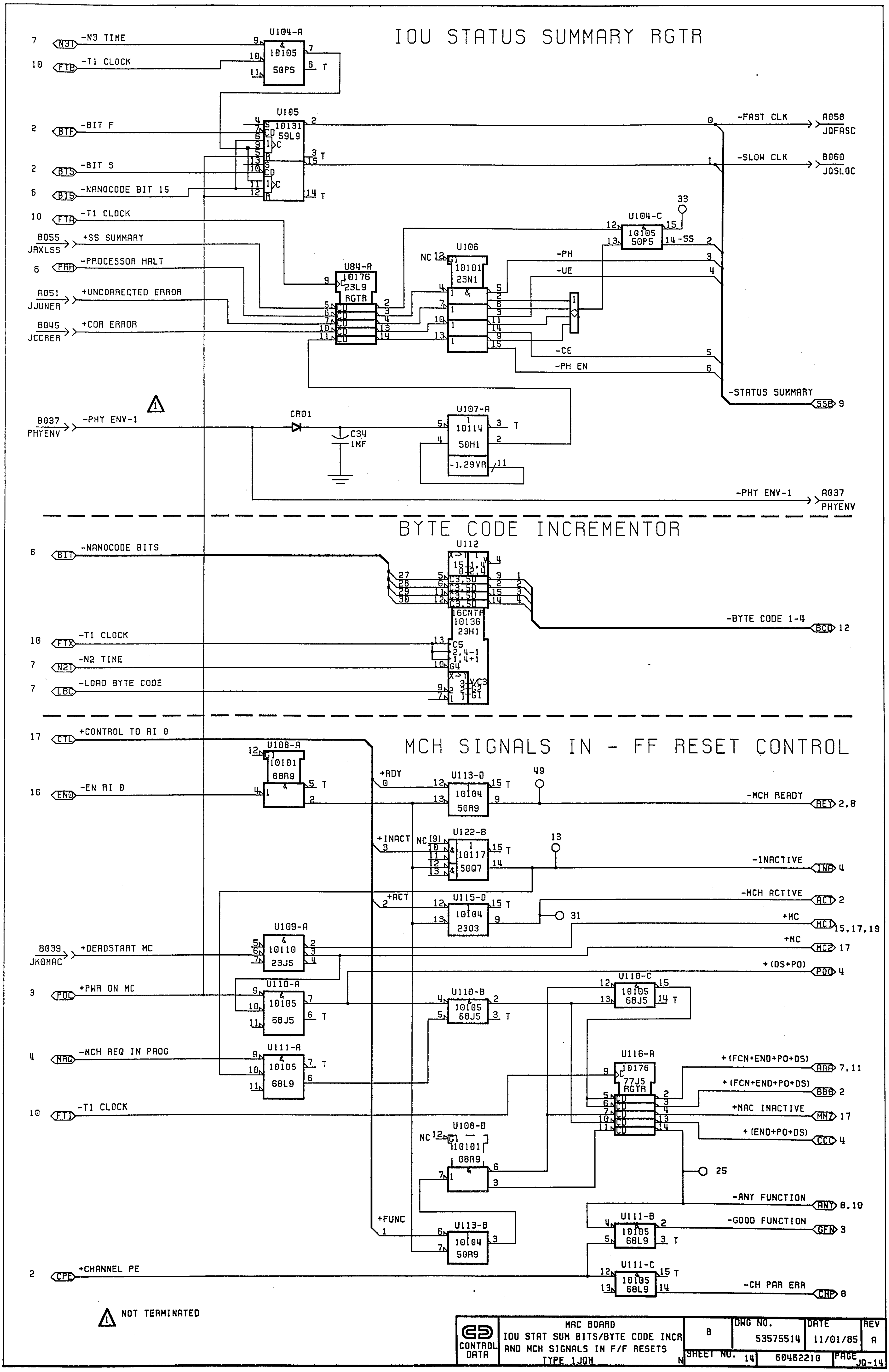
4 LINES TERMINATED ON BOTH ENDS

CONTROL DATA	MAC BOARD SERIAL/PARALLEL SHIFT REG AND PAK SELECT TYPE 1JQH	B	DWG NO. 53575514	DATE 08/24/87	REV D
		SHEET NO. 12	60462210	PAGE JQ-12	

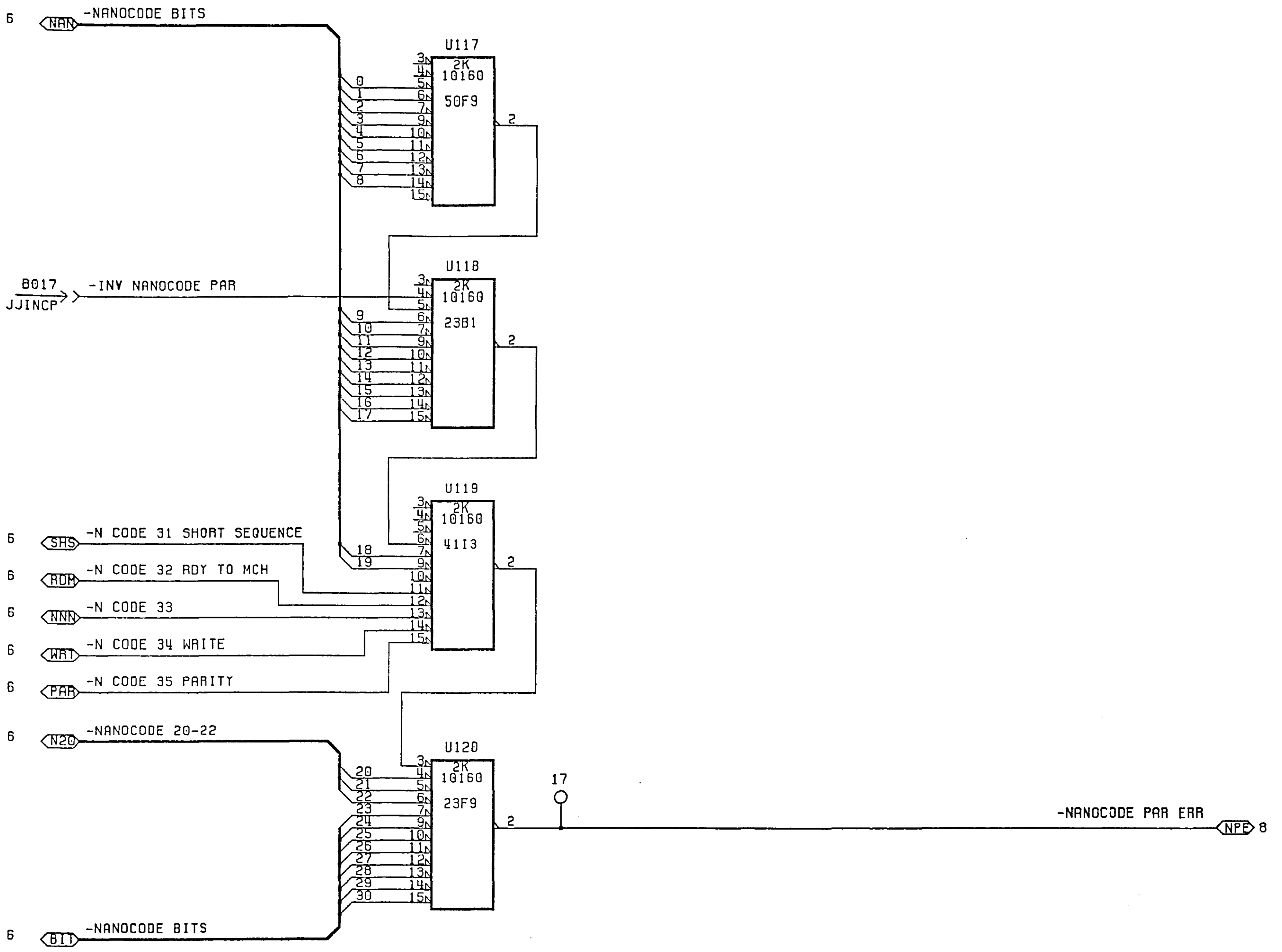
INPUT SEL


6 INP -BLK READ
6 NAN -NANOCODE BITS
12 INN -BS DATA IN 0-31
U95 X->Y CODER 10161 23C3
A022 -MAC DATA FROM D28 JT07PK
A021 -MAC DATA FROM D27 JS05PK
B021 -MAC DATA FROM A21 JT04PK
A018 -MAC DATA FROM A20 JS03PK
U100 X->Y G7 G0 10H164 05D5 MUX
U101 X->Y G7 G0 10H164 05E7 MUX
U102 X->Y G7 G0 10H164 05C3 MUX
U103 X->Y G7 G0 10H164 05B1 MUX
EID MUX
8 BCT -BYTE COUNT
U96 X->Y G3 G0 10174 05H1 MUX
U97 X->Y G3 G0 10174 14H1 MUX
U98 X->Y G3 G0 10174 05I3 MUX
U99 X->Y G3 G0 10174 14I3 MUX
B038 -ELEMENT ID BIT 48 EID048
A036 -ELEMENT ID BIT 49 EID049
B042 -ELEMENT ID BIT 50 EID050
B041 -ELEMENT ID BIT 51 EID051
A050 -ELEMENT ID BIT 52 EID052
B047 -ELEMENT ID BIT 53 EID053
B043 -ELEMENT ID BIT 54 EID054
A039 -ELEMENT ID BIT 55 EID055
A038 -ELEMENT ID BIT 56 EID056
B036 -ELEMENT ID BIT 57 EID057
A042 -ELEMENT ID BIT 58 EID058
A040 -ELEMENT ID BIT 59 EID059
B051 -ELEMENT ID BIT 60 EID060
A046 -ELEMENT ID BIT 61 EID061
A041 -ELEMENT ID BIT 62 EID062
B040 -ELEMENT ID BIT 63 EID063
2 ZER -LOGIC ZERO
12 B14 -MUX DECODE BIT
-T1 PG7
U53-E 10176 59H1 RGTR
-BS PAR ERR AT N7 PN7 8
U185-B 10H105 59F9
-BIT SERIAL DATA IN DAT 12
-DECODE SELECT 0-3 DEC 12
-EID DATA EID 9
B015 -MAC DATA FROM D11 JX20PK 20
A016 -MAC DATA FROM D14 JX21PK 21
B016 -MAC DATA FROM D17 JX22PK 22
A017 -MAC DATA FROM D20 JX23PK 23
A006 -MAC DATA FROM D23 JX24PK 24
B006 -MAC DATA FROM C11 JX25PK 25
B005 -MAC DATA FROM C14 JX26PK 26
A005 -MAC DATA FROM C17 JX27PK 27
A010 -MAC DATA FROM C20 JX28PK 28
B010 -MAC DATA FROM C23 JX29PK 29

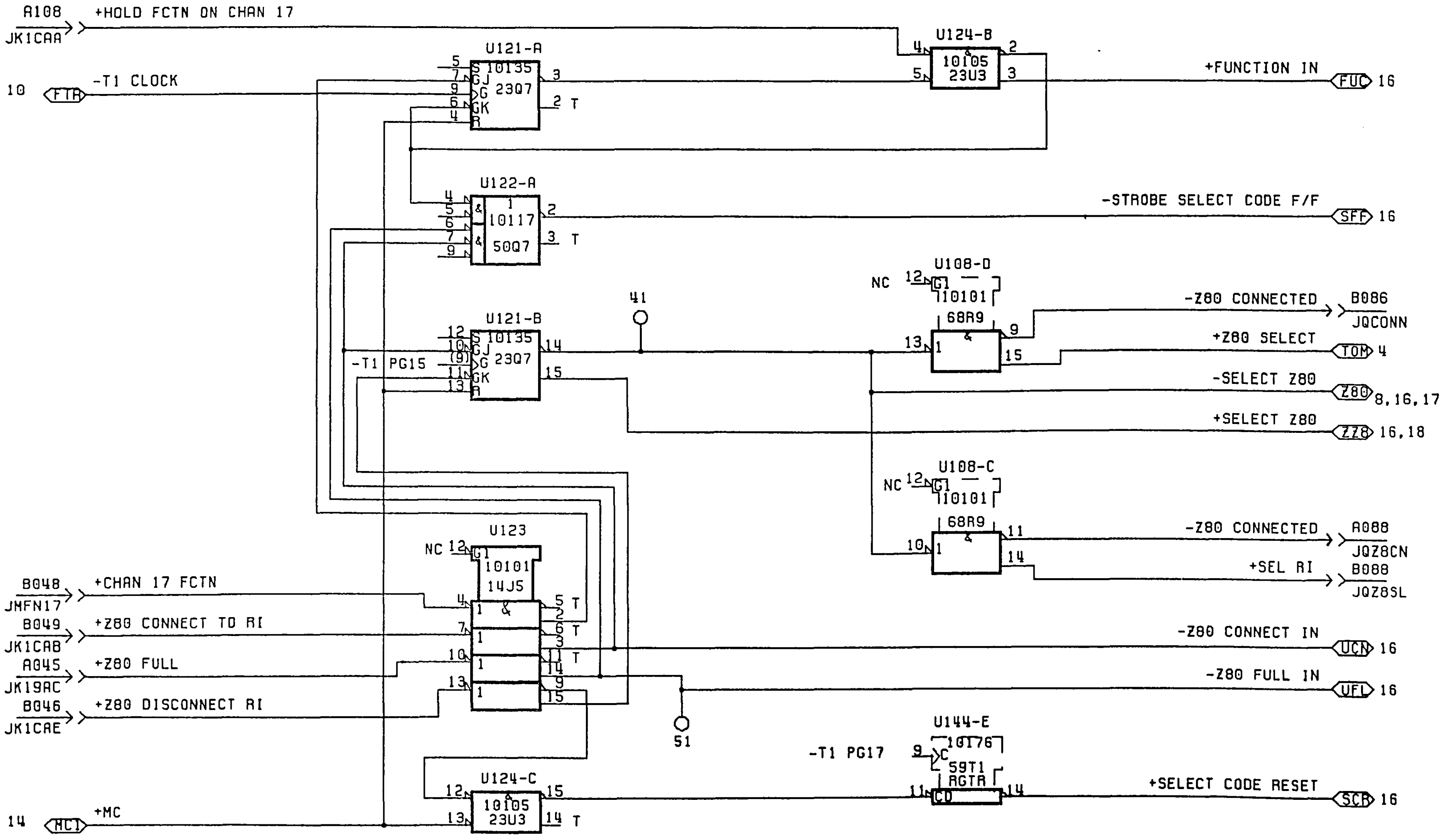
CONTROL DATA	MAC BOARD ELEMENT ID AND BIT SERIAL INPUT SELECTOR TYPE 1JQH	B	DWG NO. 53575514	DATE 08/24/87	REV D
			SHEET NO. 13	60462210	PAGE JQ-13


IOU STATUS SUMMARY RGTR
BYTE CODE INCREMENTOR
MCH SIGNALS IN - FF RESET CONTROL
-N3 TIME
-T1 CLOCK
-BIT F
-BIT S
-NANOCODE BIT 15
+SS SUMMARY
-PROCESSOR HALT
+UNCORRECTED ERROR
+COR ERROR
-PHY ENV-1
U104-A 10105 50P5
U105 10131 59L9
U104-C 10105 50P5
U106 10101 23N1
U84-A 10176 23L9 RGTR
U107-A 10114 50H1
-1.29VR
CR01
C34 1MF
-FAST CLK A058 JQFASC
-SLOW CLK B060 JQSLOC
-SS
-PH
-UE
-CE
-PH EN
-STATUS SUMMARY SSB 9
-PHY ENV-1 A037 PHYENV
B055 JAXLSS
A051 JJUNER
B045 JCCAER
B037 PHYENV
33
-NANOCODE BITS
-N2 TIME
-LOAD BYTE CODE
U112 16CNTR 10136 23H1
-BYTE CODE 1-4 BCD 12
+CONTROL TO RI 0
-EN RI 0
+DEADSTART MC
+PWR ON MC
-MCH REQ IN PROG
+CHANNEL PE
B039 JKOMAC
U108-A 10101 68A9
U113-D 10104 50A9
U122-B 10117 50Q7
U115-D 10104 23Q3
U109-A 10110 23J5
U110-A 10105 68J5
U110-B 10105 68J5
U110-C 10105 68J5
U111-A 10105 68L9
U116-A 10176 77J5 RGTR
U108-B 10101 68A9
U113-B 10104 50A9
U111-B 10105 68L9
U111-C 10105 68L9
+RDY
+INACT
+ACT
+FUNC
49
13
31
25
-MCH READY RET 2,8
-INACTIVE INA 4
-MCH ACTIVE ACT 2
+MC MC1 15,17,19
+MC MC2 17
+(DS+PO) POO 4
+(FCN+END+PO+DS) AAA 7,11
+(FCN+END+PO+DS) BBB 2
+MAC INACTIVE MH2 17
+(END+PO+DS) CCC 4
-ANY FUNCTION ANY 8,10
-GOOD FUNCTION GFN 3
-CH PAR ERR CHP 8
NOT TERMINATED
CONTROL DATA
MAC BOARD
IOU STAT SUM BITS/BYTE CODE INCR
AND MCH SIGNALS IN F/F RESETS
TYPE 1JQH
B
DWG NO. 53575514
DATE 11/01/85
REV A
SHEET NO. 14
60462210
PAGE JQ-14

NCODE PAR CHECKER



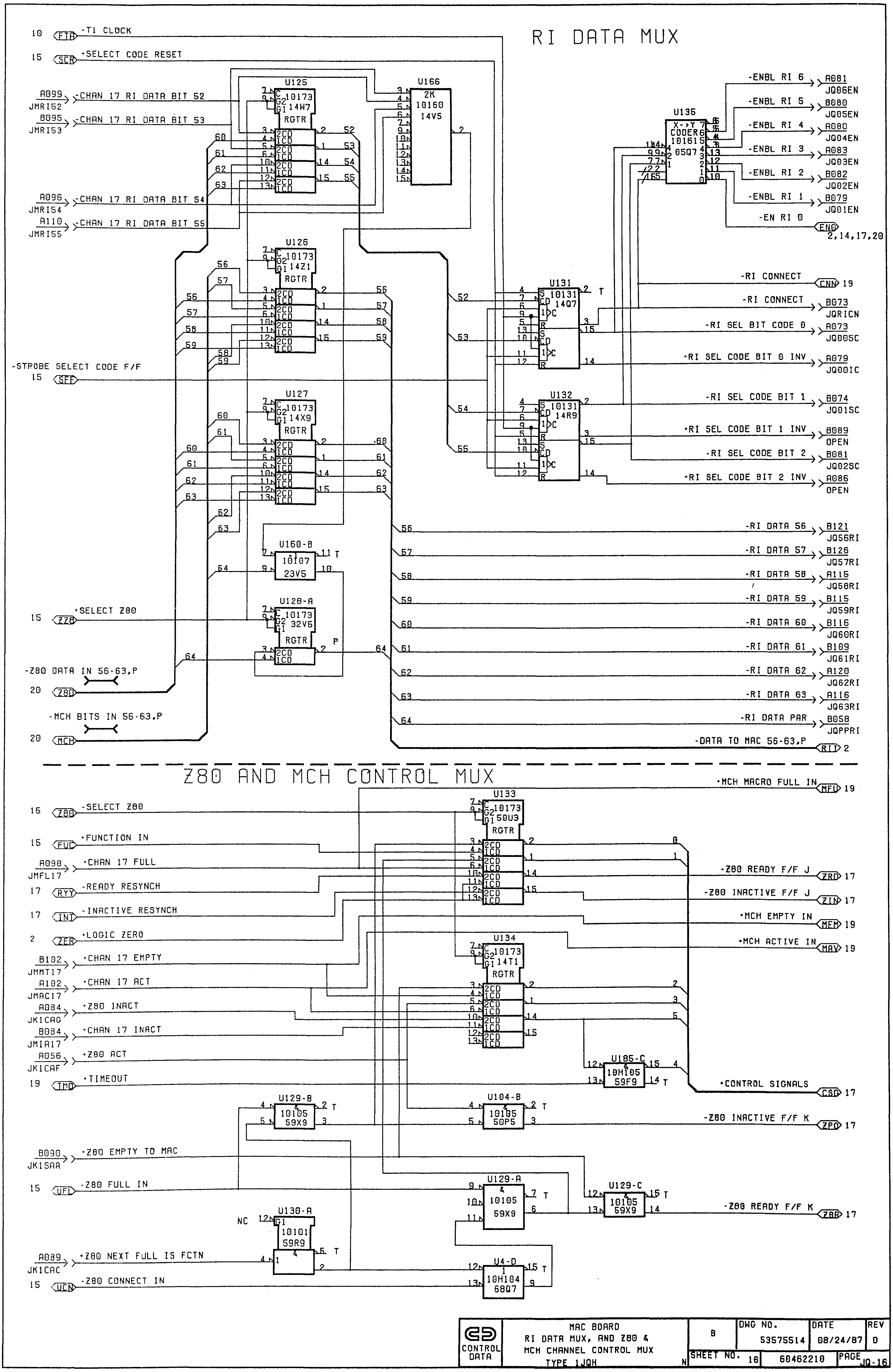
CONNECT CODE RGTR



CONTROL DATA

MAC BOARD
NANOCODE PARITY AND
CONNECT CODE REGISTER
TYPE 1JQH

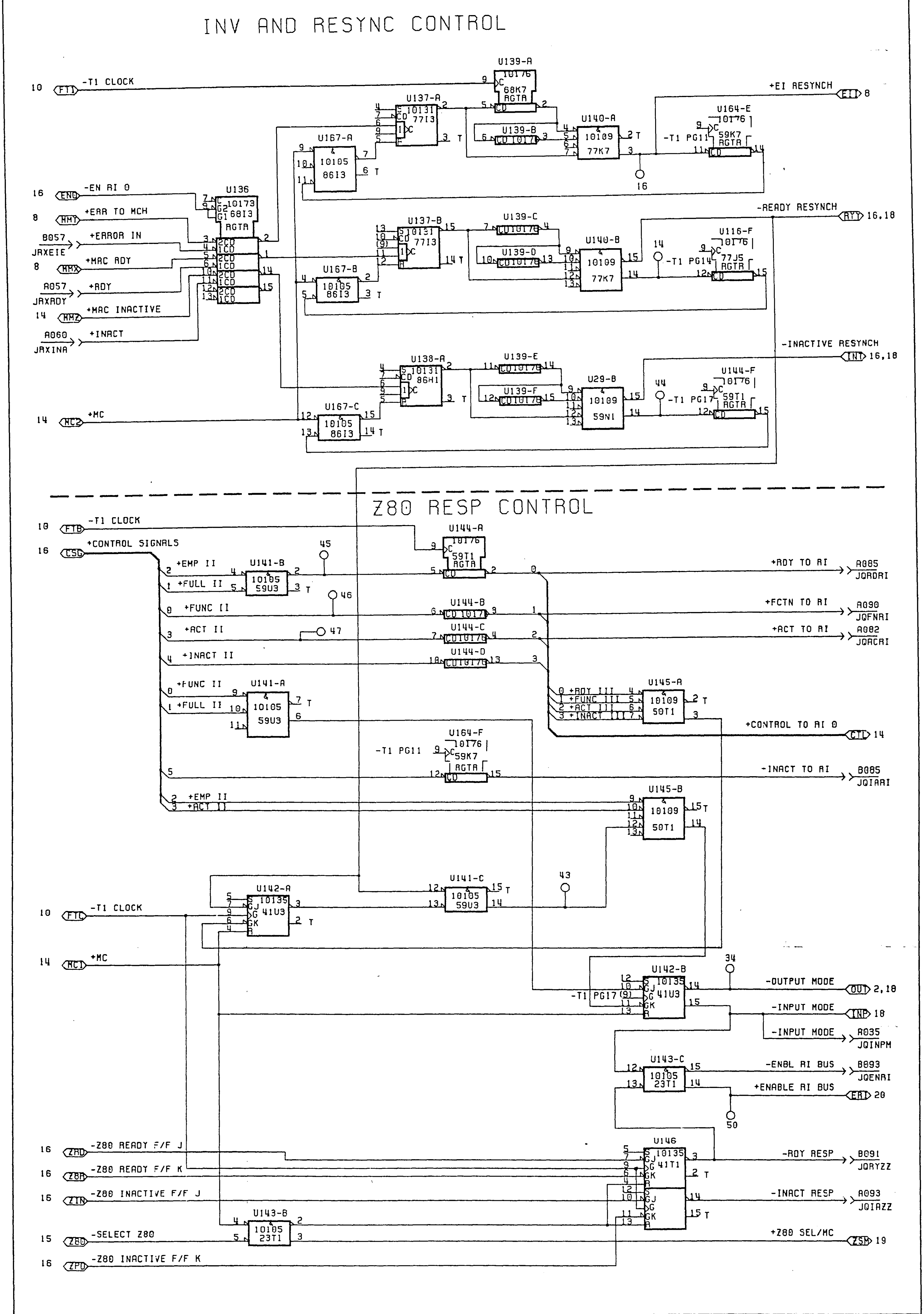
B	DWG NO. 53575514	DATE 11/01/85	REV A	
N	SHEET NO. 15	60462210	PAGE JQ-15	



CONTROL DATA

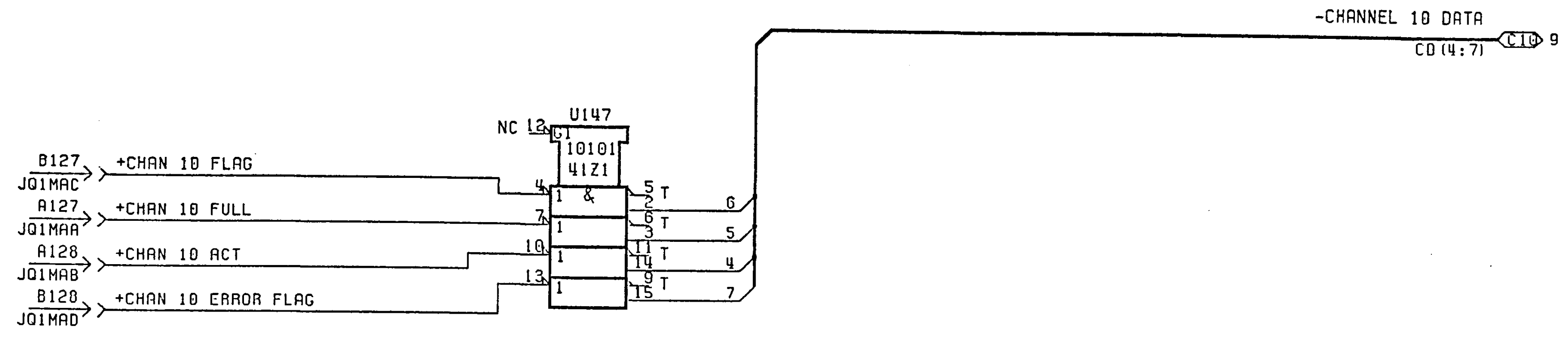
MAC BOARD
RI DATA MUX, AND Z80 &
MCH CHANNEL CONTROL MUX
TYPE 1JQH

B	DWG NO. 53575514	DATE 08/24/87	REV D
SHEET NO. 16	60462210	PAGE JQ-16	

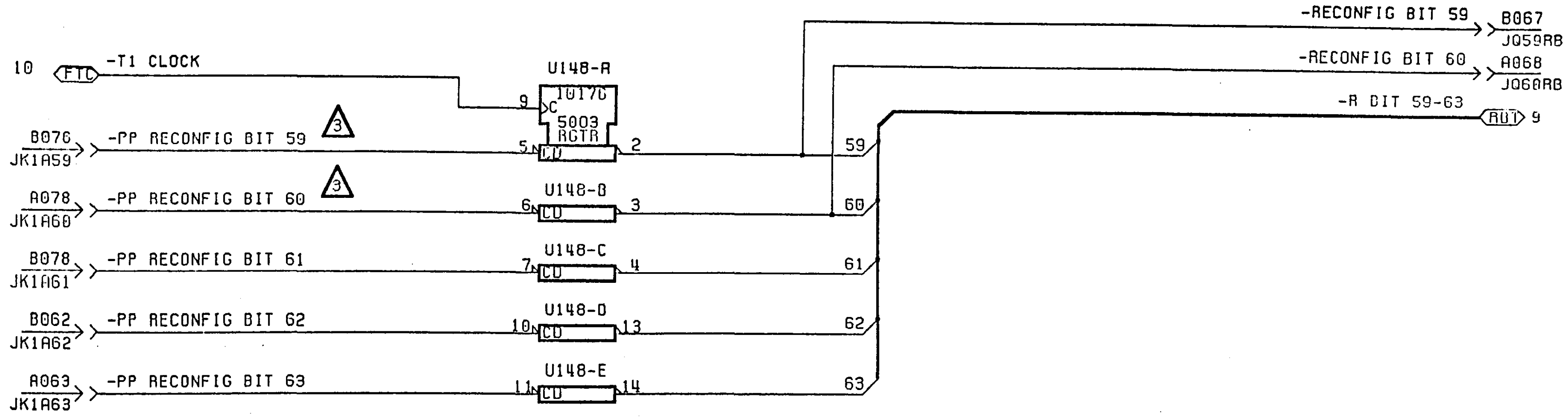


CONTROL DATA	MAC BOARD Z80 RESPONSE F/F.S AND INVERT & RESYNCH CONTROL SIGNALS TYPE 1JQH	B	DWG NO. 53575514	DATE 01/12/87	REV C
	N	SHEET NO. 17	60462210	PAGE JQ-17	

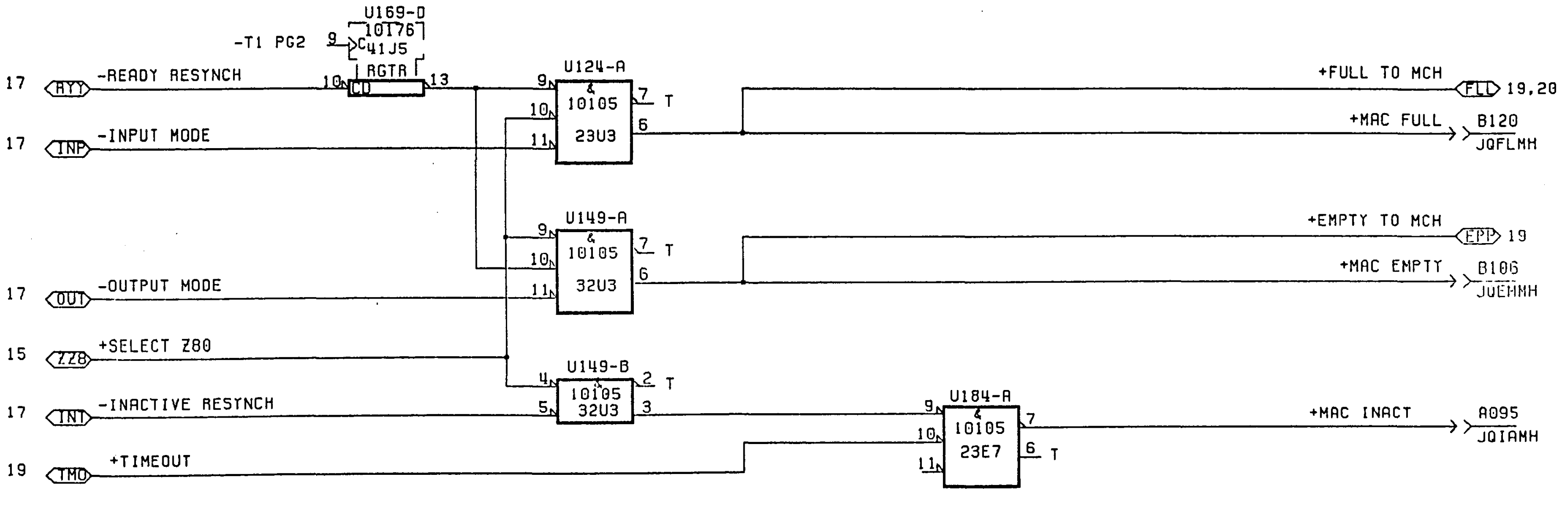
CHAN 10 DATA INV



RECONFIG RGTR



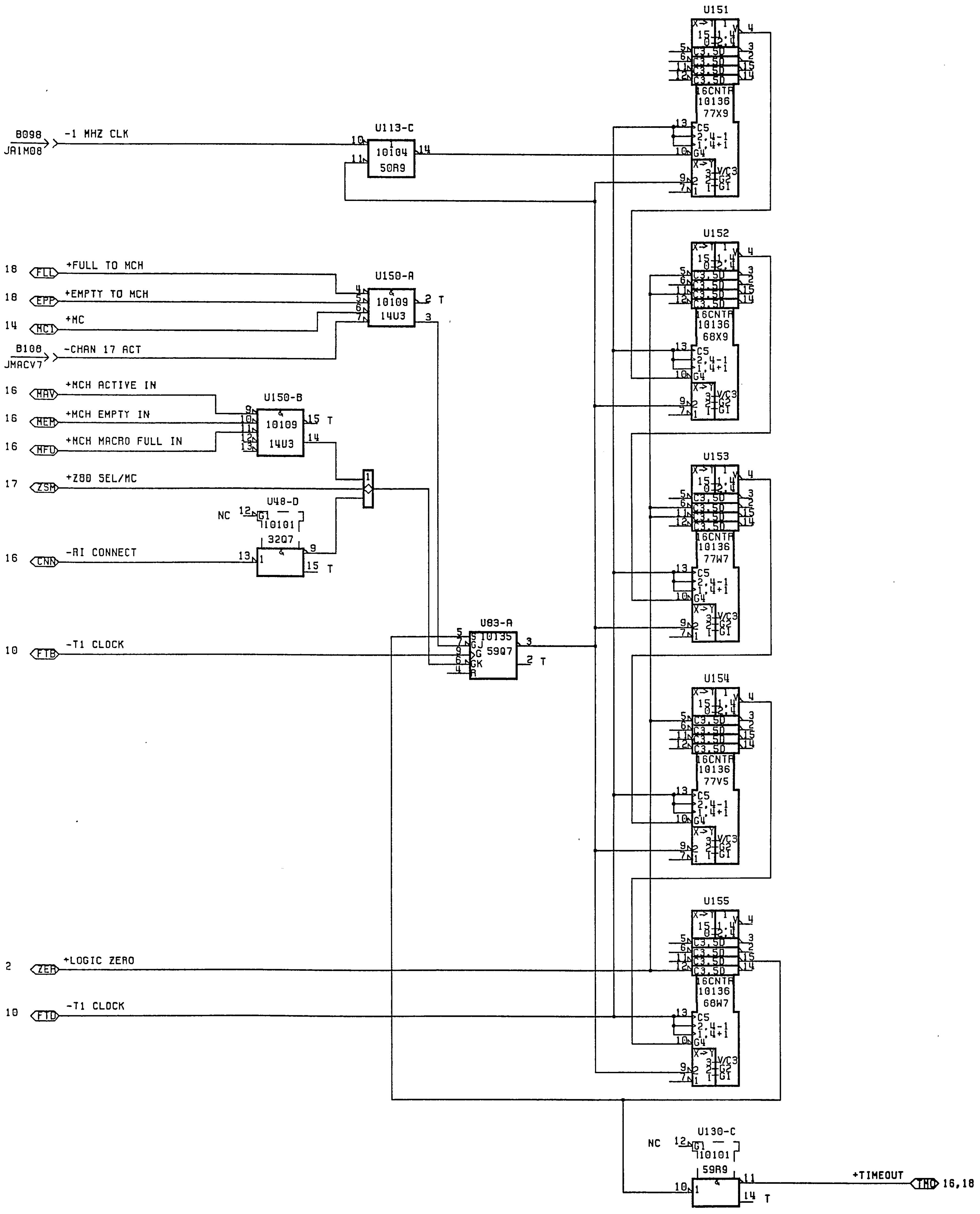
MCH CONTROL



△3 NOT TERMINATED

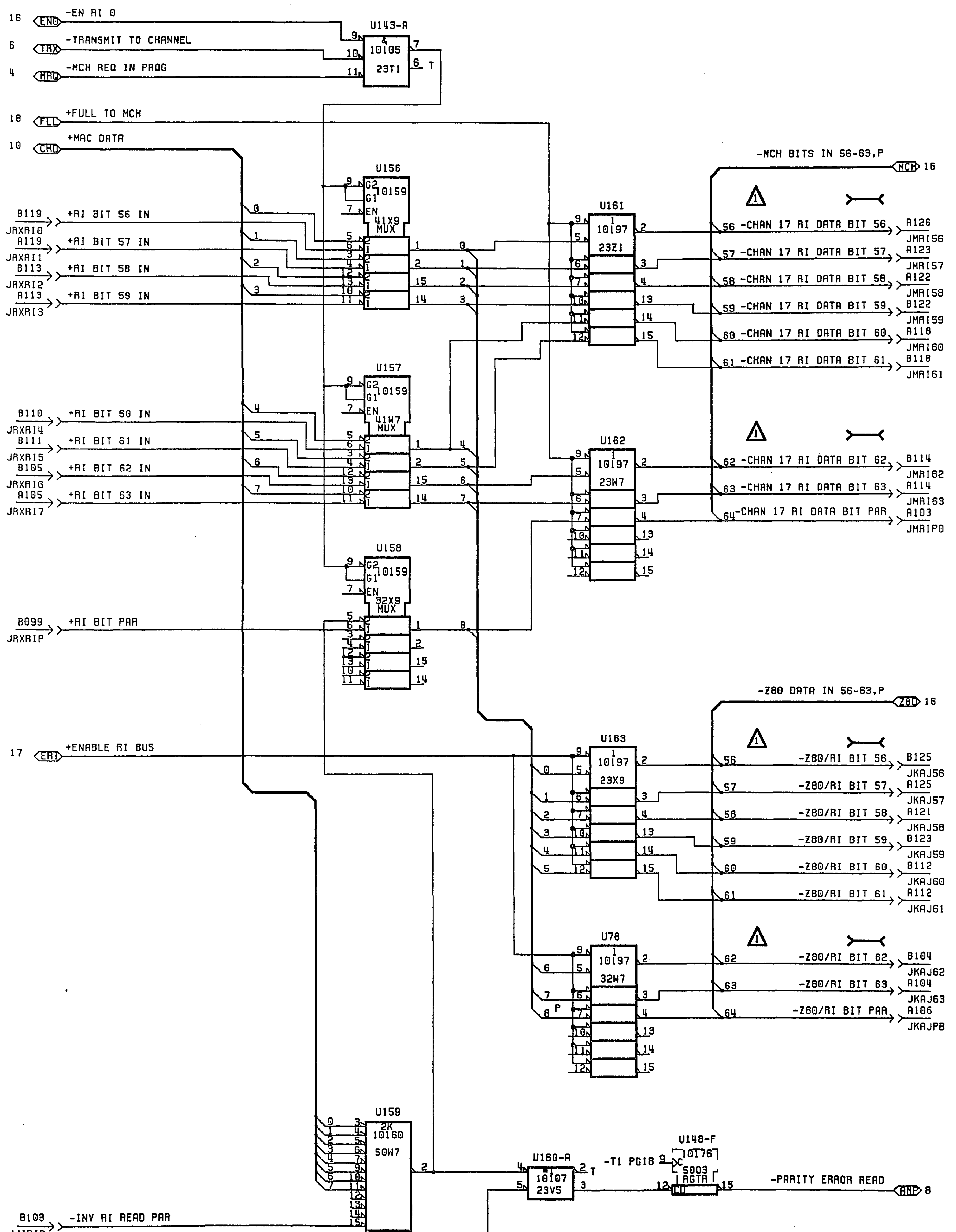
CONTROL DATA	MAC BOARD CH 10 DATA INV. A BITS LATCHED MCH CONTROL SIGNALS TYPE 1JOH	B	DWG NO. 53575514	DATE 11/01/85	REV A
		N	SHEET NO. 18	60462210	PAGE JO-18

TIMEOUT CNTR



CONTROL DATA	MAC BOARD TIMEOUT CIRCUIT TYPE 1J0H	B	DWG NO. 53575514	DATE 11/01/85	REV A
		SHEET NO. 19	60462210	PAGE JQ-19	

Z80 AND MCH INTERFACE


16 ENQ -EN RI 0
6 TRX -TRANSMIT TO CHANNEL
4 MRQ -MCH REQ IN PROG
U143-A 10105 23T1
18 FLL +FULL TO MCH
10 CHD +MAC DATA
U156 10159 41X9 MUX
U157 10159 41W7 MUX
U158 10159 32X9 MUX
B119 JRXRI0 +RI BIT 56 IN
A119 JRXRI1 +RI BIT 57 IN
B113 JRXRI2 +RI BIT 58 IN
A113 JRXRI3 +RI BIT 59 IN
B110 JRXRI4 +RI BIT 60 IN
B111 JRXRI5 +RI BIT 61 IN
B105 JRXRI6 +RI BIT 62 IN
A105 JRXRI7 +RI BIT 63 IN
B099 JRXRIP +RI BIT PAR
-MCH BITS IN 56-63,P MCH 16
U161 10197 23Z1
U162 10197 23W7
56 -CHAN 17 RI DATA BIT 56 A126 JMRI56
57 -CHAN 17 RI DATA BIT 57 A123 JMRI57
58 -CHAN 17 RI DATA BIT 58 A122 JMRI58
59 -CHAN 17 RI DATA BIT 59 B122 JMRI59
60 -CHAN 17 RI DATA BIT 60 A118 JMRI60
61 -CHAN 17 RI DATA BIT 61 B118 JMRI61
62 -CHAN 17 RI DATA BIT 62 B114 JMRI62
63 -CHAN 17 RI DATA BIT 63 A114 JMRI63
64 -CHAN 17 RI DATA BIT PAR A103 JMRIP0
17 ERI +ENABLE RI BUS
-Z80 DATA IN 56-63,P Z80 16
U163 10197 23X9
U78 10197 32W7
56 -Z80/RI BIT 56 B125 JKAJ56
57 -Z80/RI BIT 57 A125 JKAJ57
58 -Z80/RI BIT 58 A121 JKAJ58
59 -Z80/RI BIT 59 B123 JKAJ59
60 -Z80/RI BIT 60 B112 JKAJ60
61 -Z80/RI BIT 61 A112 JKAJ61
62 -Z80/RI BIT 62 B104 JKAJ62
63 -Z80/RI BIT 63 A104 JKAJ63
64 -Z80/RI BIT PAR A106 JKAJPB
U159 2K 10160 50W7
U160-A 10107 23V5
-T1 PG18
U148-F 10176 5003 AGTR
-PARITY ERROR READ AMP 8
B103 JJIRIP -INV RI READ PAR
10 CHX -MAC PAR

⚠ KEEP SHORT AND TERMINATE AT FARTHEST POINT FROM CONNECTOR PIN

CONTROL DATA	MAC BOARD Z80 AND MCH INTERFACE TYPE 1JQH	B	DWG NO. 53575514	DATE 11/01/85	REV A
		SHEET NO. 20	60462210	PAGE JQ-20	

TESTPOINTS

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	03	-WRITE FUNC	27		
02	08	-MAC READY	28	02	-BIT S
03	05	-NANOCODE ADR BIT 3	29	02	+CONTROL WORD EMPTY
04	05	-NANOCODE ADR BIT 4	30	03	-REQ SS FUNC
05	03	-READ FUNCTION	31	14	-MCH ACTIVE
06	05	-NANOCODE ADR BIT 6	32	11	+LOAD
07	05	-NANOCODE ADR BIT 5	33	14	+SUMMARY STATUS
08	05	-NANOCODE ADR BIT 7	34	17	-OUTPUT MODE
09	04	-REQ NANOCODE	35	04	-MCH REQ IN PROG
10	05	-NANOCODE ADR BIT 0	36	07	-END SHIFT
11	05	-NANOCODE ADR BIT 2	37		
12	05	-NANOCODE ADR BIT 1	38	13	-BIT SERIAL DATA IN
13	14	-INACTIVE	39		
14	17	+READY RESYNCH	40	07	-START SEQUENCE
15	12	-READ BS	41	15	-Z80 CONNECTED
16	17	+EI RESYNCH	42	03	-CLEAR LED
17	15	-NANOCODE PAR ERROR	43	17	+MAC READY II
18	12	-SERIAL OUT	44	17	+INACTIVE RESYNCH
19	10	-T1 CLOCK	45	17	+READY TO RI
20	08	-PAK ERROR	46	17	+FUNCTION TO RI
21	02	+CHANNEL PE	47	17	+ACTIVE TO RI
22	04	-MAC BUSY	48	03	-CLEAR ERROR
23	07	-RESTART SEQUENCE	49	14	-MCH READY
24	04	-START NANOCODE	50	17	+ENABLE RI BUS
25	14	-ANY FUNCTION	51	15	-Z80 FULL IN
26	02	-BIT F			

CONNECTOR PINS

GND	A014,B014,A024,B024,A034,B034,A054,B054,A065,B065,A066,B066,A077,B077,A097,B097,A107,B107,A117,B117
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	A061,B061,A070,B070 (NOT USED)
TERM	NONE
UNUSED	A015,A031,A043,A092

CONTROL DATA	MAC BOARD TESTPOINTS & SIGNAL NAMES AND CONNECTOR PINS TYPE 1JQH	B	DWG NO. 53575514	DATE 11/01/85	REV A
	N	SHEET NO. 21	60462210	PAGE JQ-21	

CAUTION

There are two sets of logic diagrams for this board. Each set supports a different board version. The appropriate logic diagram set for your board has a board master (B/M) number that matches the printed wiring board (PWB) number of the board. The B/M number is located in the upper right corner of the diagram set cover page (sheet 1), and the PWB number is located on the back of the board.

1JRH RI BOARD

REVISION HISTORY B/M 41653100			
DATE	REV	DESCRIPTION OF CHANGE	INIT
11/01/85	A	CLASS A RELEASE OF LOGIC DIAGRAMS WITH	
		ECO'S #46366, 46344, & 46867 INSTALLED.	WED
07/07/86	B	ECO #47746 ADDS B/M NO. TO SHT 1.	LHJ
01/12/87	C	ECO #48330 PAGES 1 & 10	
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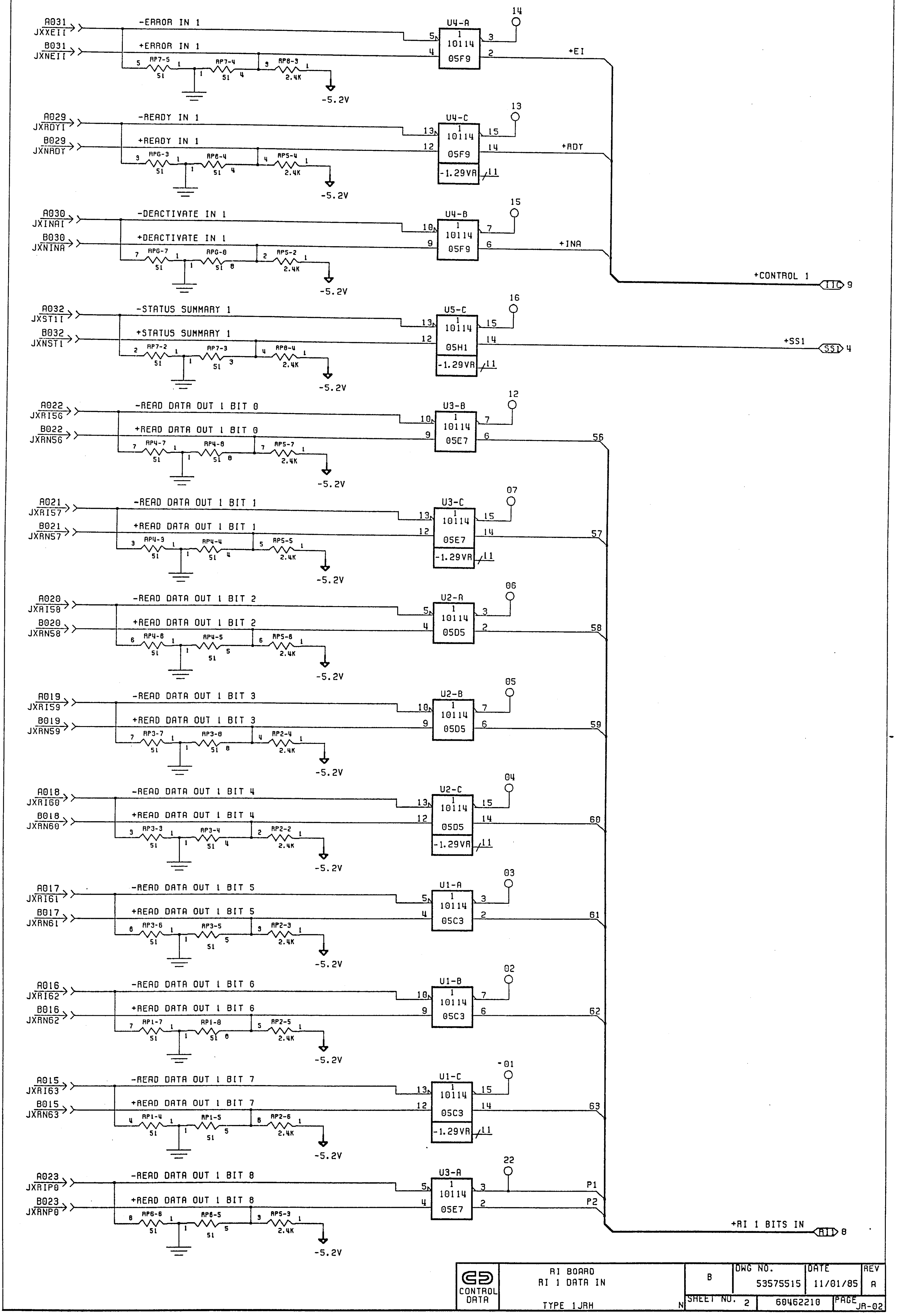
DWN	L H JOHNSON	11/01/85
CHKD	D A FORD	12/04/85
ENG	W E DIETHART	12/05/85
PUBS	A K BONDE	12/05/85
APP	W E DIETHART	12/05/85

NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

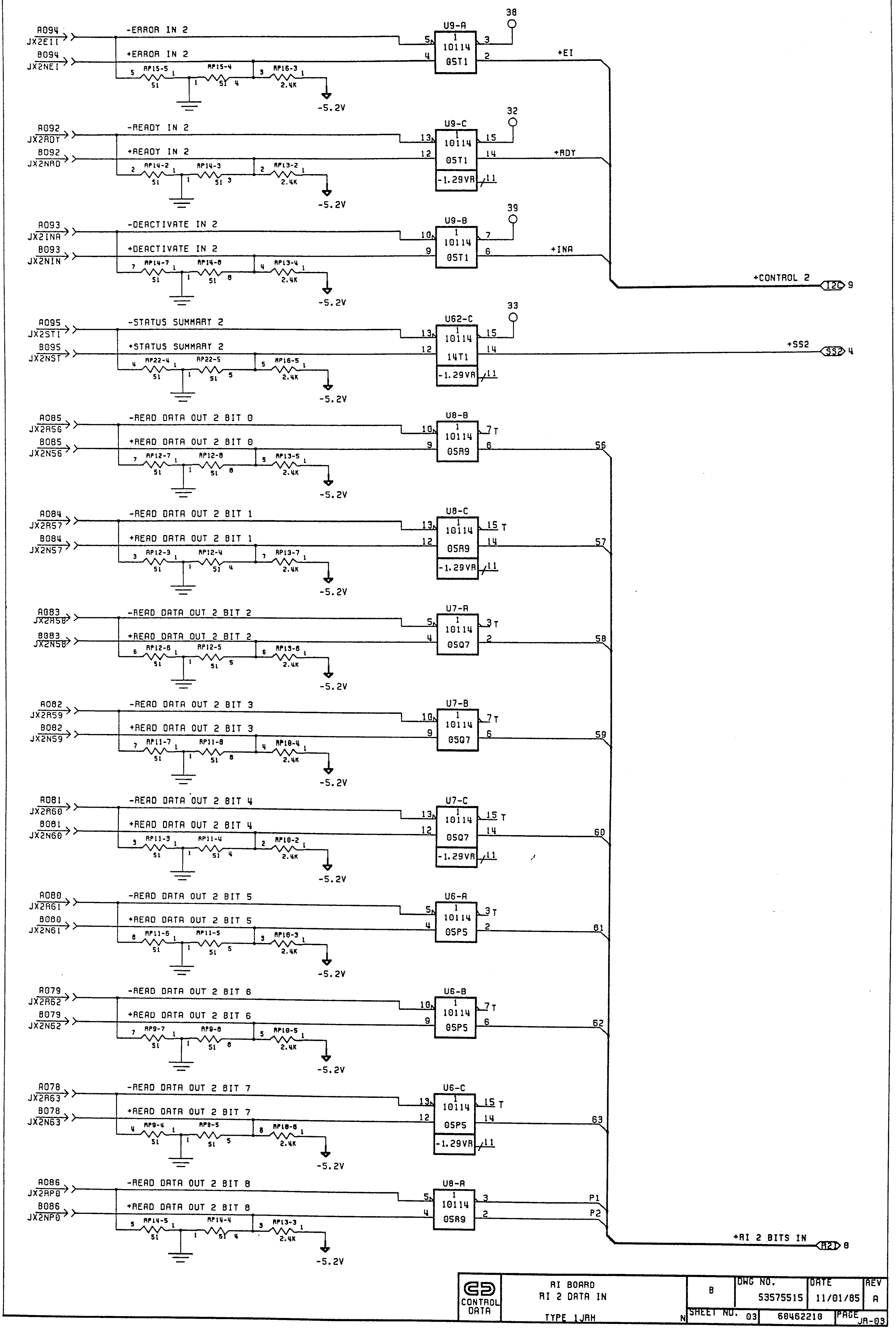
LOC: A23,A24

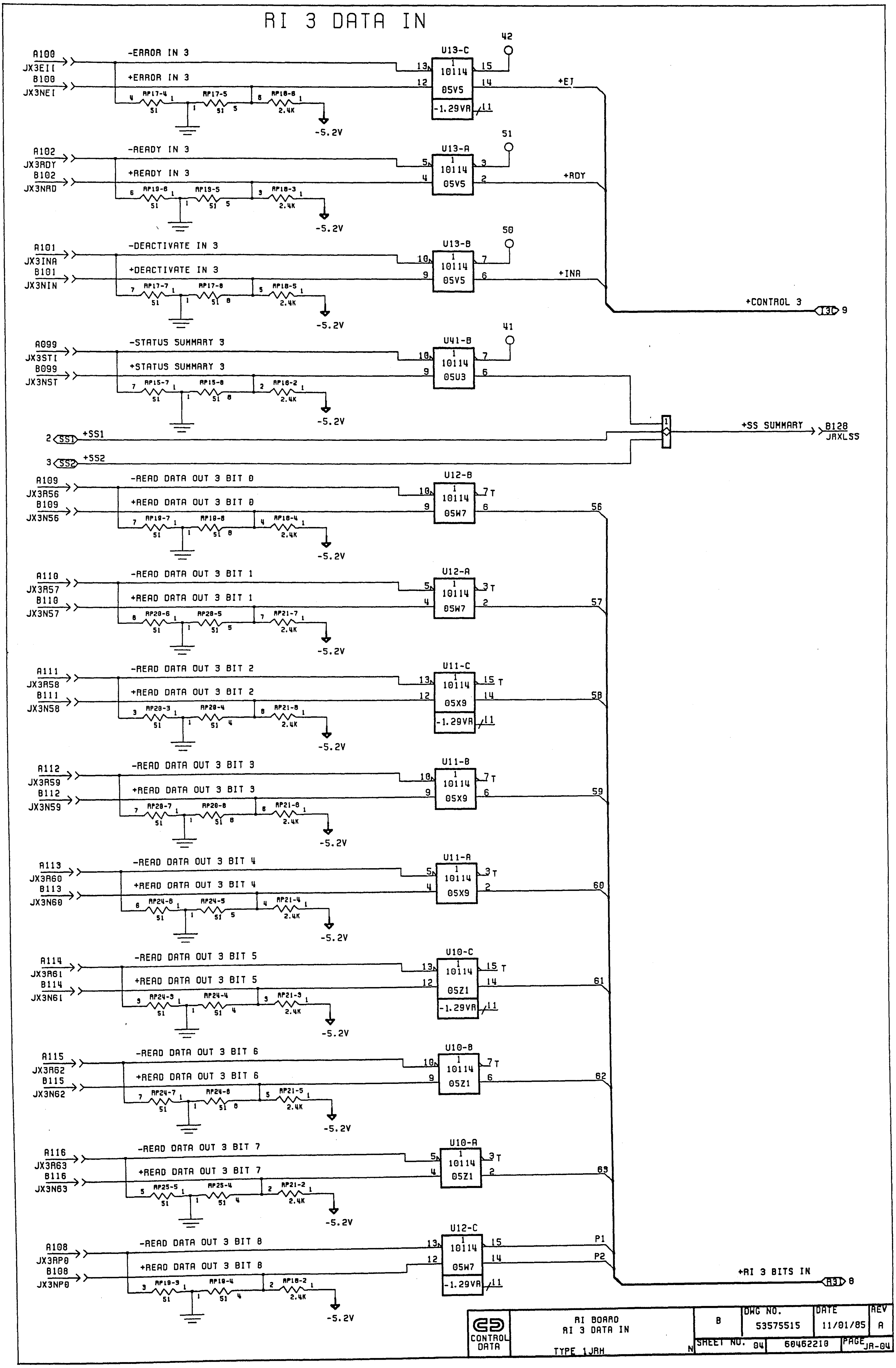
CONTROL DATA	REVISION HISTORY	B	DWG NO. 53575515	DATE 01/12/87	REV C
	TYPE 1JRH	N	SHEET NO. 1	60462210	PAGE JR-01

RI 1 DATA IN

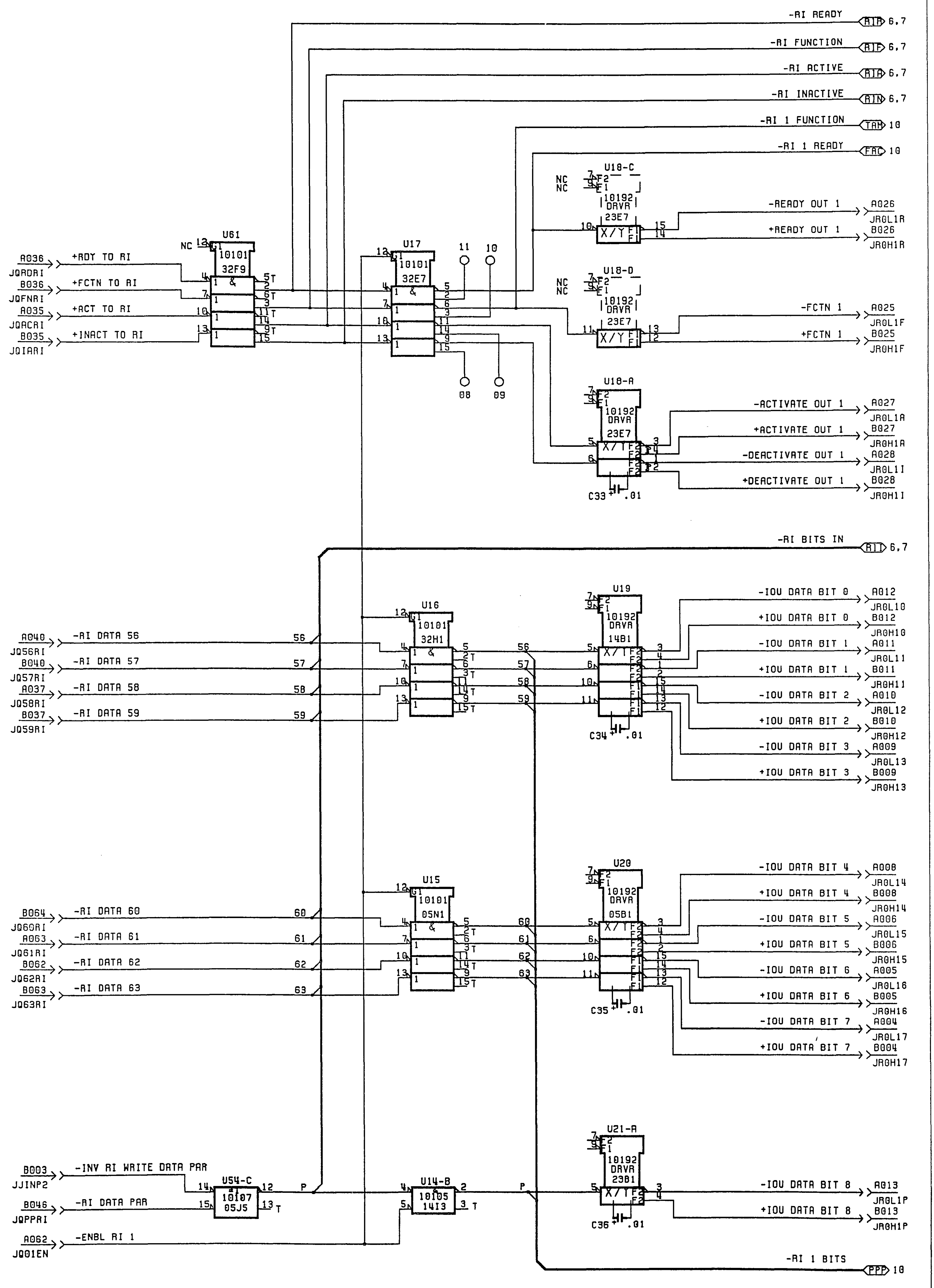

A031 JXXEII -ERROR IN 1
B031 JXNEII +ERROR IN 1
U4-A 10114 05F9
+EI
A029 JXRDYI -READY IN 1
B029 JXNRDY +READY IN 1
U4-C 10114 05F9 -1.29VR
+RDY
A030 JXINAI -DEACTIVATE IN 1
B030 JXNINA +DEACTIVATE IN 1
U4-B 10114 05F9
+INA
+CONTROL 1
IIC 9
A032 JXSTII -STATUS SUMMARY 1
B032 JXNSTI +STATUS SUMMARY 1
U5-C 10114 05H1 -1.29VR
+SS1
SSI 4
A022 JXRI56 -READ DATA OUT 1 BIT 0
B022 JXRN56 +READ DATA OUT 1 BIT 0
U3-B 10114 05E7
A021 JXRI57 -READ DATA OUT 1 BIT 1
B021 JXRN57 +READ DATA OUT 1 BIT 1
U3-C 10114 05E7 -1.29VR
A020 JXRI58 -READ DATA OUT 1 BIT 2
B020 JXRN58 +READ DATA OUT 1 BIT 2
U2-A 10114 05D5
A019 JXRI59 -READ DATA OUT 1 BIT 3
B019 JXRN59 +READ DATA OUT 1 BIT 3
U2-B 10114 05D5
A018 JXRI60 -READ DATA OUT 1 BIT 4
B018 JXRN60 +READ DATA OUT 1 BIT 4
U2-C 10114 05D5 -1.29VR
A017 JXRI61 -READ DATA OUT 1 BIT 5
B017 JXRN61 +READ DATA OUT 1 BIT 5
U1-A 10114 05C3
A016 JXRI62 -READ DATA OUT 1 BIT 6
B016 JXRN62 +READ DATA OUT 1 BIT 6
U1-B 10114 05C3
A015 JXRI63 -READ DATA OUT 1 BIT 7
B015 JXRN63 +READ DATA OUT 1 BIT 7
U1-C 10114 05C3 -1.29VR
A023 JXRIP0 -READ DATA OUT 1 BIT 8
B023 JXRNP0 +READ DATA OUT 1 BIT 8
U3-A 10114 05E7
56 57 58 59 60 61 62 63 P1 P2
+RI 1 BITS IN
RI1 8
51 2.4K -5.2V
CONTROL DATA
RI BOARD
RI 1 DATA IN
TYPE 1JRH
B
DWG NO. 53575515
DATE 11/01/85
REV A
SHEET NO. 2
60462210
PAGE JR-02

RI 2 DATA IN


A094 JX2EI1 -ERROR IN 2
B094 JX2NEI +ERROR IN 2
U9-A 10114 05T1 38 +EI
RP15-5 51 RP15-4 51 RP16-3 2.4K -5.2V
A092 JX2RDY -READY IN 2
B092 JX2NRD +READY IN 2
U9-C 10114 05T1 -1.29VR 32 +RDY
RP14-2 51 RP14-3 51 RP13-2 2.4K -5.2V
A093 JX2INA -DEACTIVATE IN 2
B093 JX2NIN +DEACTIVATE IN 2
U9-B 10114 05T1 39 +INA
RP14-7 51 RP14-8 51 RP13-4 2.4K -5.2V
+CONTROL 2 I2C 9
A095 JX2ST1 -STATUS SUMMARY 2
B095 JX2NST +STATUS SUMMARY 2
U62-C 10114 14T1 -1.29VR 33
RP22-4 51 RP22-5 51 RP16-5 2.4K -5.2V
+SS2 SS2 4
A085 JX2R56 -READ DATA OUT 2 BIT 0
B085 JX2N56 +READ DATA OUT 2 BIT 0
U8-B 10114 05R9 56
RP12-7 51 RP12-8 51 RP13-5 2.4K -5.2V
A084 JX2R57 -READ DATA OUT 2 BIT 1
B084 JX2N57 +READ DATA OUT 2 BIT 1
U8-C 10114 05R9 -1.29VR 57
RP12-3 51 RP12-4 51 RP13-7 2.4K -5.2V
A083 JX2R58 -READ DATA OUT 2 BIT 2
B083 JX2N58 +READ DATA OUT 2 BIT 2
U7-A 10114 05Q7 58
RP12-6 51 RP12-5 51 RP13-8 2.4K -5.2V
A082 JX2R59 -READ DATA OUT 2 BIT 3
B082 JX2N59 +READ DATA OUT 2 BIT 3
U7-B 10114 05Q7 59
RP11-7 51 RP11-8 51 RP10-4 2.4K -5.2V
A081 JX2R60 -READ DATA OUT 2 BIT 4
B081 JX2N60 +READ DATA OUT 2 BIT 4
U7-C 10114 05Q7 -1.29VR 60
RP11-3 51 RP11-4 51 RP10-2 2.4K -5.2V
A080 JX2R61 -READ DATA OUT 2 BIT 5
B080 JX2N61 +READ DATA OUT 2 BIT 5
U6-A 10114 05P5 61
RP11-6 51 RP11-5 51 RP10-3 2.4K -5.2V
A079 JX2R62 -READ DATA OUT 2 BIT 6
B079 JX2N62 +READ DATA OUT 2 BIT 6
U6-B 10114 05P5 62
RP9-7 51 RP9-8 51 RP10-5 2.4K -5.2V
A078 JX2R63 -READ DATA OUT 2 BIT 7
B078 JX2N63 +READ DATA OUT 2 BIT 7
U6-C 10114 05P5 -1.29VR 63
RP9-4 51 RP9-5 51 RP10-6 2.4K -5.2V
A086 JX2RP0 -READ DATA OUT 2 BIT 8
B086 JX2NP0 +READ DATA OUT 2 BIT 8
U8-A 10114 05R9 P1 P2
RP14-5 51 RP14-4 51 RP13-3 2.4K -5.2V
+RI 2 BITS IN RI2 8
CONTROL DATA
RI BOARD
RI 2 DATA IN
TYPE 1JAH
B
DWG NO. 53575515
DATE 11/01/85
REV A
SHEET NO. 03
60462210
PAGE JA-03

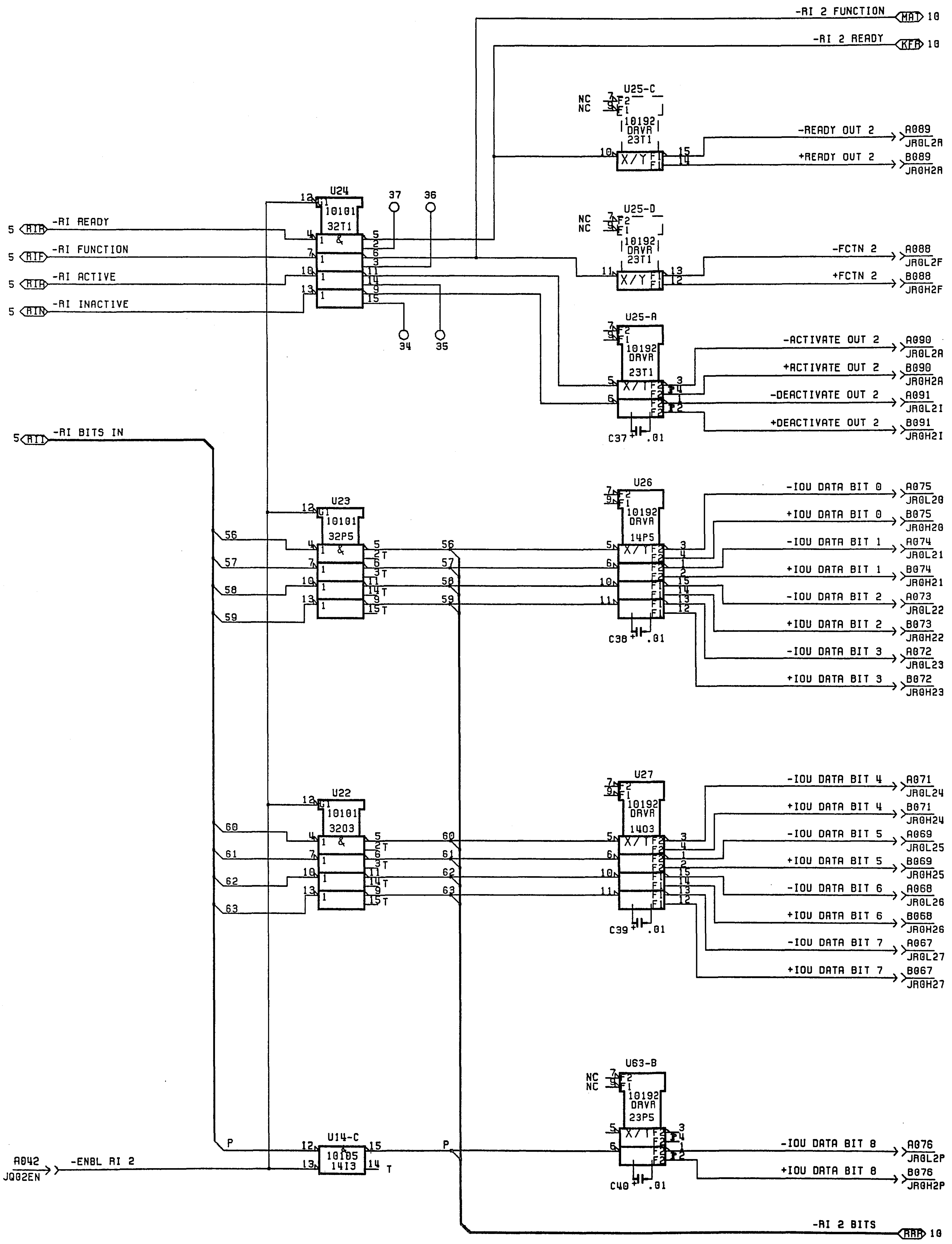

RI 3 DATA IN
A100 JX3EII -ERROR IN 3
B100 JX3NEI +ERROR IN 3
RP17-4 51 RP17-5 51 RP18-8 2.4K -5.2V
U13-C 10114 05V5 -1.29VR 42 +EI
A102 JX3RDY -READY IN 3
B102 JX3NRD +READY IN 3
RP19-6 51 RP19-5 51 RP18-3 2.4K -5.2V
U13-A 10114 05V5 51 +RDY
A101 JX3INA -DEACTIVATE IN 3
B101 JX3NIN +DEACTIVATE IN 3
RP17-7 51 RP17-8 51 RP18-5 2.4K -5.2V
U13-B 10114 05V5 50 +INA
+CONTROL 3 13C 9
A099 JX3STI -STATUS SUMMARY 3
B099 JX3NST +STATUS SUMMARY 3
RP15-7 51 RP15-8 51 RP18-2 2.4K -5.2V
U41-B 10114 05U3 41
2 SS1 +SS1
3 SS2 +SS2
+SS SUMMARY B128 JRXLSS
A109 JX3R56 -READ DATA OUT 3 BIT 0
B109 JX3N56 +READ DATA OUT 3 BIT 0
RP19-7 51 RP19-8 51 RP18-4 2.4K -5.2V
U12-B 10114 05W7 56
A110 JX3R57 -READ DATA OUT 3 BIT 1
B110 JX3N57 +READ DATA OUT 3 BIT 1
RP20-6 51 RP20-5 51 RP21-7 2.4K -5.2V
U12-A 10114 05W7 57
A111 JX3R58 -READ DATA OUT 3 BIT 2
B111 JX3N58 +READ DATA OUT 3 BIT 2
RP20-3 51 RP20-4 51 RP21-8 2.4K -5.2V
U11-C 10114 05X9 -1.29VR 58
A112 JX3R59 -READ DATA OUT 3 BIT 3
B112 JX3N59 +READ DATA OUT 3 BIT 3
RP20-7 51 RP20-8 51 RP21-6 2.4K -5.2V
U11-B 10114 05X9 59
A113 JX3R60 -READ DATA OUT 3 BIT 4
B113 JX3N60 +READ DATA OUT 3 BIT 4
RP24-6 51 RP24-5 51 RP21-4 2.4K -5.2V
U11-A 10114 05X9 60
A114 JX3R61 -READ DATA OUT 3 BIT 5
B114 JX3N61 +READ DATA OUT 3 BIT 5
RP24-3 51 RP24-4 51 RP21-3 2.4K -5.2V
U10-C 10114 05Z1 -1.29VR 61
A115 JX3R62 -READ DATA OUT 3 BIT 6
B115 JX3N62 +READ DATA OUT 3 BIT 6
RP24-7 51 RP24-8 51 RP21-5 2.4K -5.2V
U10-B 10114 05Z1 62
A116 JX3R63 -READ DATA OUT 3 BIT 7
B116 JX3N63 +READ DATA OUT 3 BIT 7
RP25-5 51 RP25-4 51 RP21-2 2.4K -5.2V
U10-A 10114 05Z1 63
A108 JX3RP0 -READ DATA OUT 3 BIT 8
B108 JX3NP0 +READ DATA OUT 3 BIT 8
RP19-3 51 RP19-4 51 RP18-2 2.4K -5.2V
U12-C 10114 05W7 -1.29VR P1 P2
+RI 3 BITS IN R3I 8
CONTROL DATA
RI BOARD
RI 3 DATA IN
TYPE 1JRH
B
DWG NO. 53575515
DATE 11/01/85
REV A
SHEET NO. 04
60462210
PAGE JR-04

RI 1 OUT



CONTROL DATA	RI BOARD RI 1 OUT TYPE 1JRH	B	DWG NO. 53575515	DATE 11/01/85	REV A
		SHEET NO. 5	60462210	PAGE JR-05	

RI 2 OUT



CONTROL DATA

RI BOARD
RI 2 OUT
TYPE 1JAH

B

DWG NO. 53575515

DATE 11/01/85

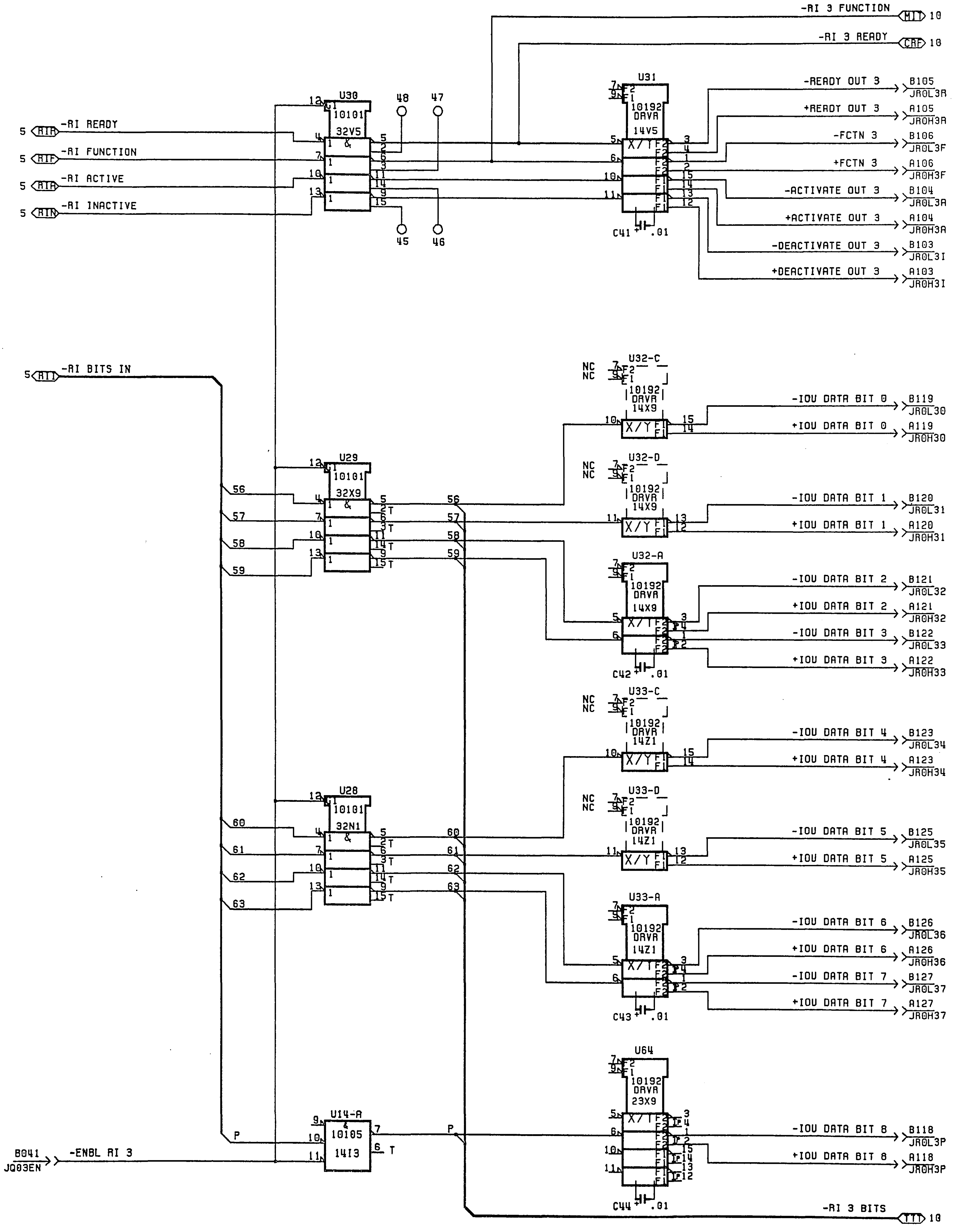
REV A

SHEET NO. 6

60462210

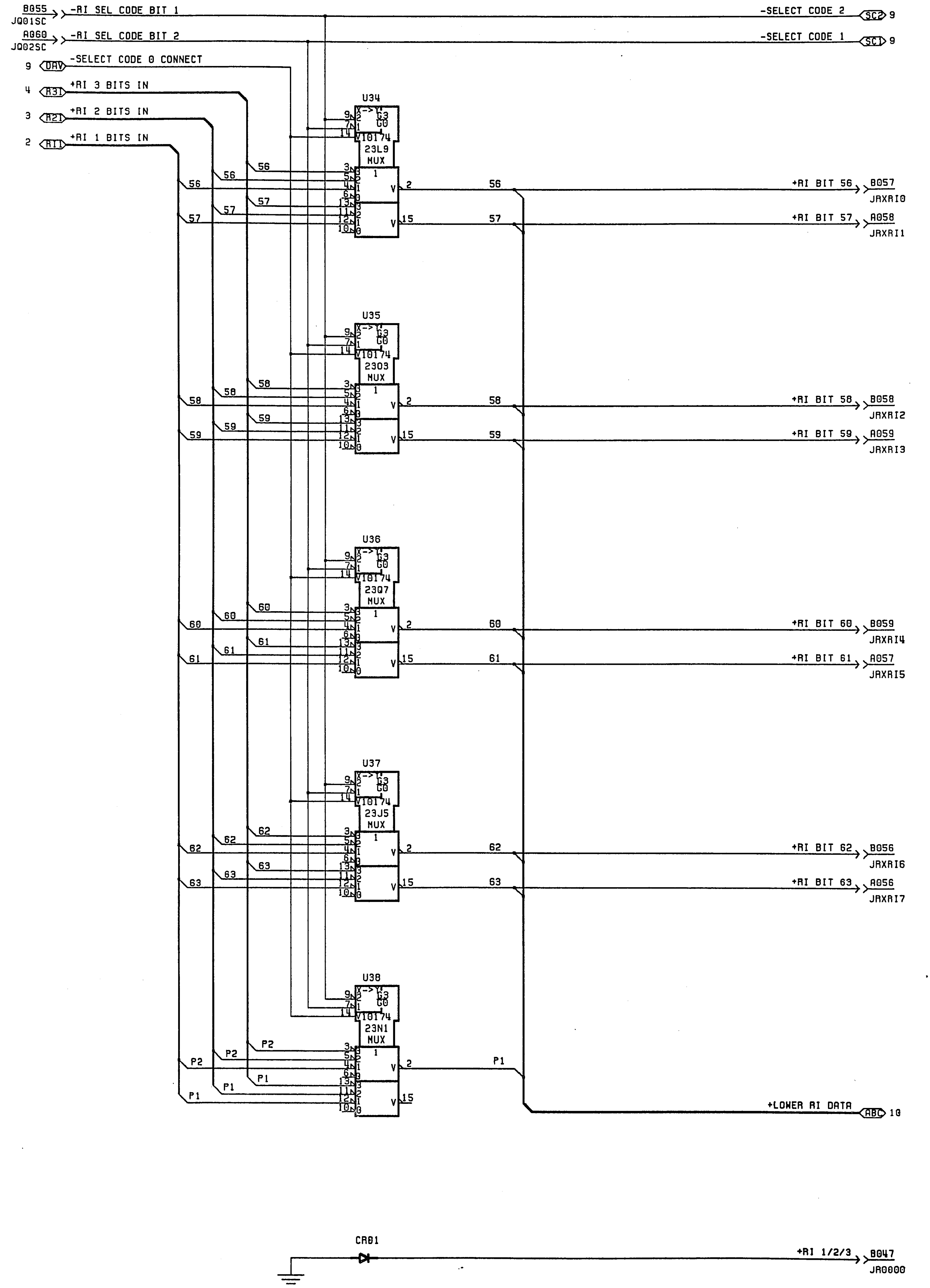
PAGE JA-08

RI 3 OUT


-RI 3 FUNCTION
RIT 10
-RI 3 READY
CRF 10
5 RIR -RI READY
5 RIF -RI FUNCTION
5 RIA -RI ACTIVE
5 RIN -RI INACTIVE
U30 10101 32V5
48
47
45
46
U31 10192 DRVR 14V5
C41 .01
-READY OUT 3 B105 JROL3R
+READY OUT 3 A105 JROH3R
-FCTN 3 B106 JROL3F
+FCTN 3 A106 JROH3F
-ACTIVATE OUT 3 B104 JROL3A
+ACTIVATE OUT 3 A104 JROH3A
-DEACTIVATE OUT 3 B103 JROL3I
+DEACTIVATE OUT 3 A103 JROH3I
5 RIT -RI BITS IN
56
57
58
59
U29 10101 32X9
U32-C 10192 DRVR 14X9
NC
-IOU DATA BIT 0 B119 JROL30
+IOU DATA BIT 0 A119 JROH30
U32-D 10192 DRVR 14X9
-IOU DATA BIT 1 B120 JROL31
+IOU DATA BIT 1 A120 JROH31
U32-A 10192 DRVR 14X9
-IOU DATA BIT 2 B121 JROL32
+IOU DATA BIT 2 A121 JROH32
-IOU DATA BIT 3 B122 JROL33
+IOU DATA BIT 3 A122 JROH33
C42 .01
U33-C 10192 DRVR 14Z1
-IOU DATA BIT 4 B123 JROL34
+IOU DATA BIT 4 A123 JROH34
U33-D 10192 DRVR 14Z1
-IOU DATA BIT 5 B125 JROL35
+IOU DATA BIT 5 A125 JROH35
U28 10101 32N1
60
61
62
63
U33-A 10192 DRVR 14Z1
-IOU DATA BIT 6 B126 JROL36
+IOU DATA BIT 6 A126 JROH36
-IOU DATA BIT 7 B127 JROL37
+IOU DATA BIT 7 A127 JROH37
C43 .01
U64 10192 DRVR 23X9
-IOU DATA BIT 8 B118 JROL3P
+IOU DATA BIT 8 A118 JROH3P
C44 .01
U14-A 10105 14I3
P
B041 JQ03EN -ENBL RI 3
-RI 3 BITS
TTT 10

CONTROL DATA	RI BOARD RI 3 OUT TYPE 1JAH	B	DWG NO. 53575515	DATE 11/01/85	REV A
		SHEET NO. 7	60462210	PAGE JA-07	

INPUT RI MUX



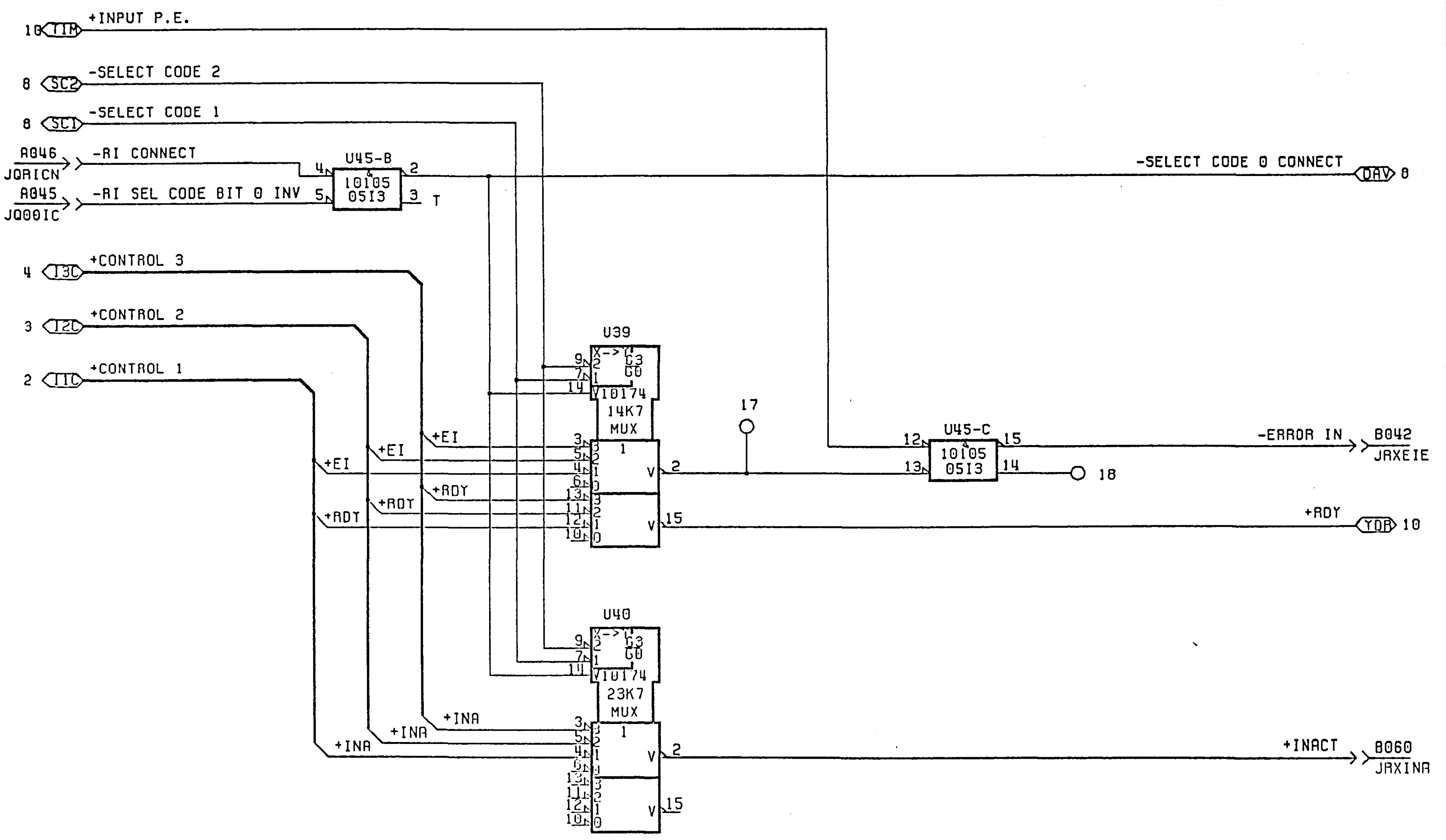
CONTROL DATA

RI BOARD
INPUT RI MUX
TYPE 1JAH

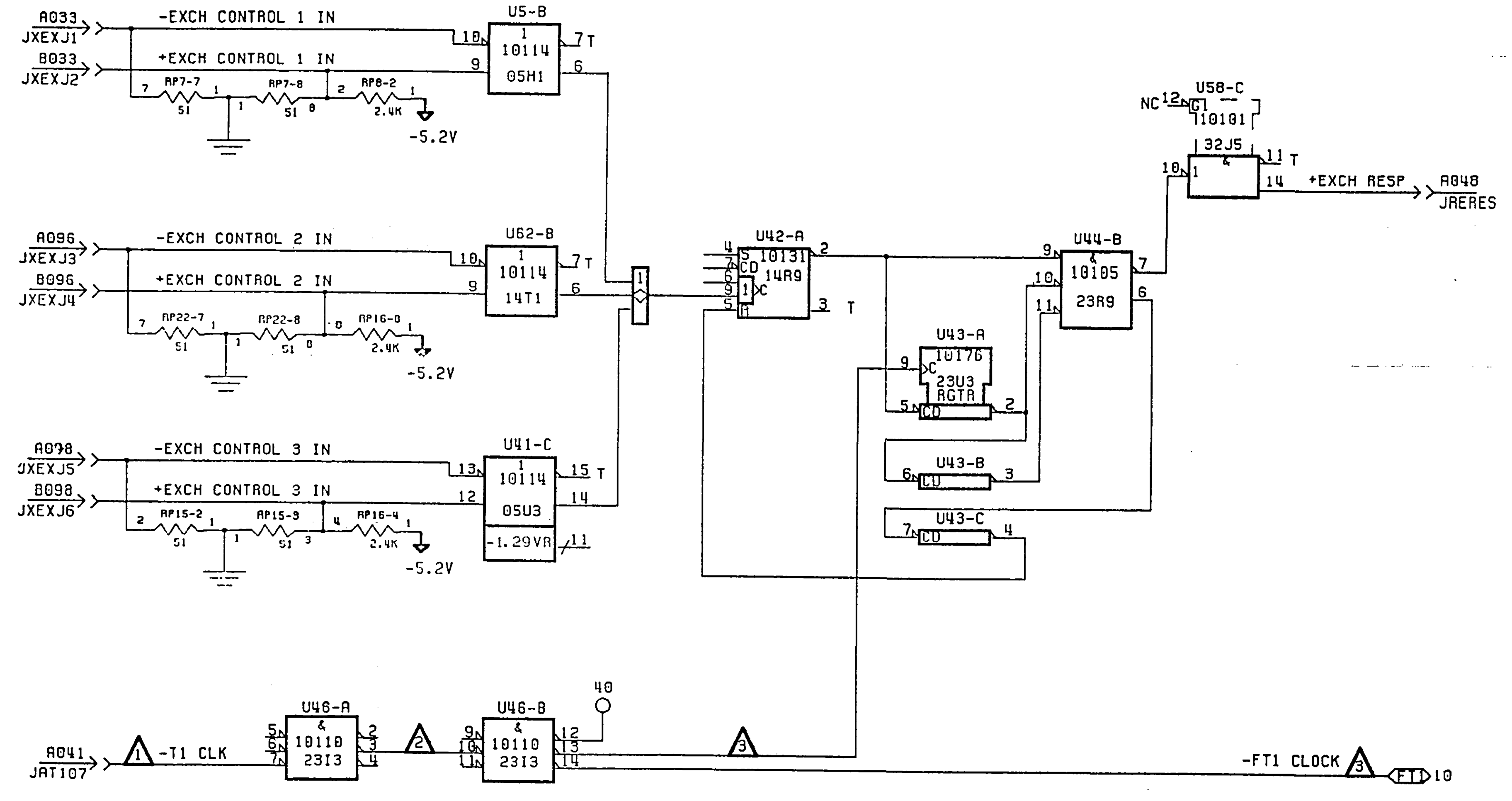
B

DWG NO. 53575515
DATE 11/01/85
REV A
SHEET NO. 8
60462210
PAGE JA-08

INPUT RI MUX-CONTROL SIGNALS



EXCH SYNC

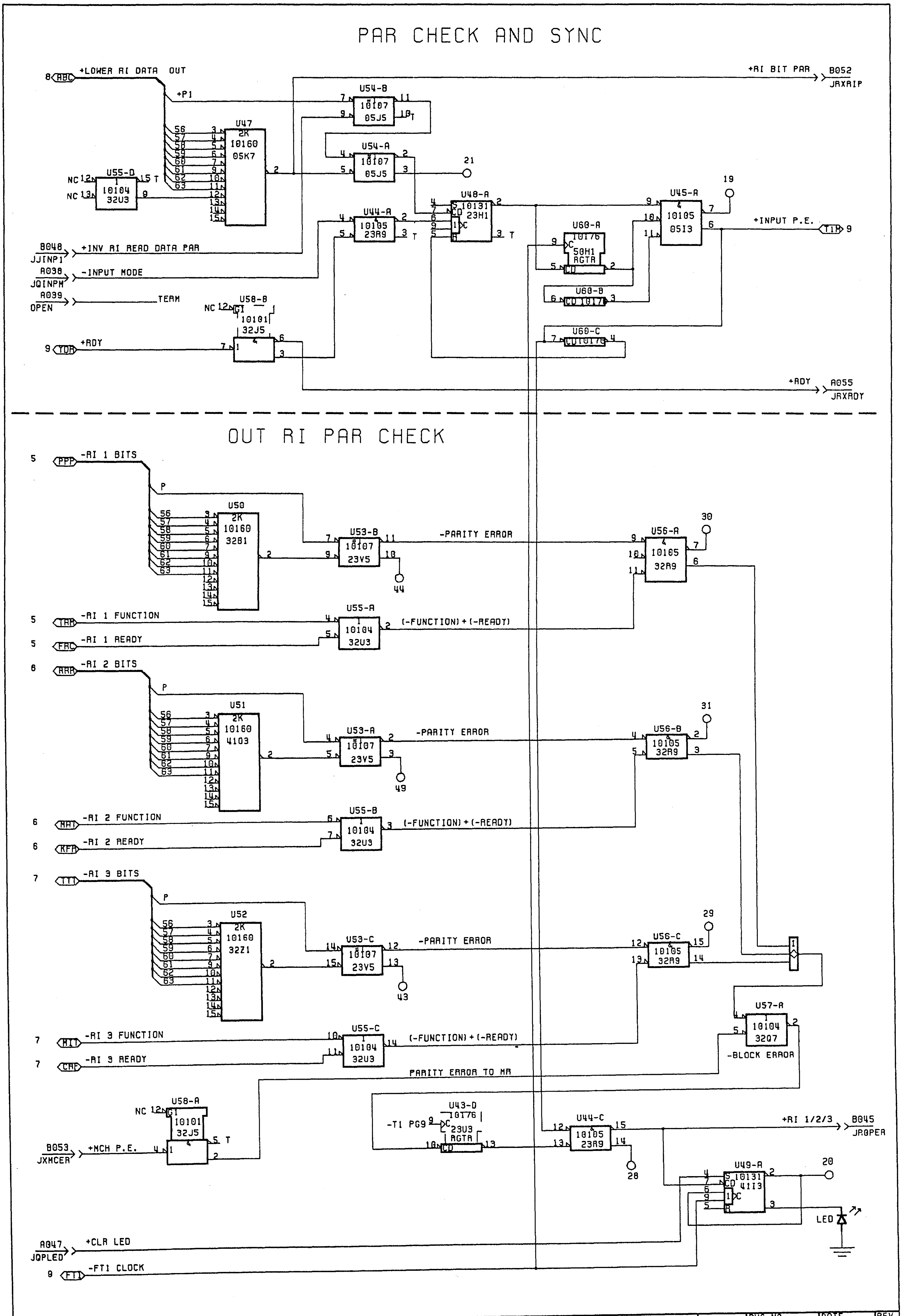


△1 MAXIMUM LENGTH 4 INCHES

△2 MAXIMUM LENGTH 7 INCHES

△3 MAXIMUM LENGTH 12 INCHES

CONTROL DATA	RI BOARD INPUT RI MUX-CONTROL SIGNALS AND EXCHANGE SYNC TYPE 1JRH	B	DWG NO. 53575515	DATE 11/01/85	REV A
		SHEET NO. 9	60462210	PAGE JR-09	



CONTROL DATA	RI BOARD PARITY CHECK & SYNC AND OUTPUT RI PARITY CHECK TYPE 1JRH	B	DWG NO. 53575515	DATE 01/12/87	REV C
		N	SHEET NO. 10	60462210	PAGE JR-10

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	02	-RI 1 BIT 63 IN	27		
02	02	-RI 1 BIT 62 IN	28	10	-RI P.E. TO MR LOWER
03	02	-RI 1 BIT 61 IN	29	10	-RI 3 P.E.&-FUNC+RDY
04	02	-RI 1 BIT 60 IN	30	10	-RI 1 P.E.&-FUNC+RDY
05	02	-RI 1 BIT 59 IN	31	10	-RI 2 P.E.&-FUNC+RDY
06	02	-RI 1 BIT 58 IN	32	03	-READY CONTROL 2 IN
07	02	-RI 1 BIT 57 IN	33	03	-STATUS CTRL 2 IN
08	05	+RI 1 INACTIVE	34	06	+RI 2 INACTIVE
09	05	+RI 1 ACTIVE	35	06	+RI 2 ACTIVE
10	05	+RI 1 FUNCTION	36	06	+RI 2 FUNCTION
11	05	+RI 1 READY	37	06	+RI 2 READY
12	02	-RI 1 BIT 56 IN	38	03	-EI CONTROL 2 IN
13	02	-READY CONTROL 1 IN	39	03	-INA CONTROL 2 IN
14	02	-EI CONTROL 1 IN	40	09	-T1 CLOCK
15	02	-INA CONTROL 1 IN	41	04	-STATUS CTRL 3 IN
16	02	-STATUS CTRL 1 IN	42	04	-EI CONTROL 3 IN
17	09	+EI CONTROL	43	10	+RI 3 PARITY ERROR
18	09	-EI ERROR OUT LOWER	44	10	+RI 1 PARITY ERROR
19	10	-INPUT PARITY ERROR	45	07	+RI 3 INACTIVE
20	10	-JR BOARD ERROR	46	07	+RI 3 ACTIVE
21	10	-LOWER RI P BIT	47	07	+RI 3 FUNCTION
22	02	-RI 1 BIT P1 IN	48	07	+RI 3 READY
23			49	10	+RI 2 PARITY ERROR
24			50	04	-INA CONTROL 3 IN
25			51	04	-READY CONTROL 3 IN
26					

CONNECTOR PINS	
GND	A014,B014,A024,B024,A034,B034,A054,B054,A065,B065,A066,B066,A077,B077,A097,B097,A107,B107,A117,B117
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	A061,B061,A070,B070 [NOT USED]
TERM	A039
UNUSED	A003,B038,B039,A043,B043,A049,B049,A050,B050,A051,B051,A052,A053,A064,A128,B128

CONTROL DATA	RI BOARD TESTPOINTS & SIGNAL NAMES AND CONNECTOR PINS TYPE 1JAH	B	DWG NO. 53575515	DATE 11/01/85	REV A
	N	SHEET NO. 11	60462210	PAGE JA-11	

CAUTION

There are two sets of logic diagrams for this board. Each set supports a different board version. The appropriate logic diagram set for your board has a board master (B/M) number that matches the printed wiring board (PWB) number of the board. The B/M number is located in the upper right corner of the diagram set cover page (sheet 1), and the PWB number is located on the back of the board.

1JRH RI BOARD

REVISION HISTORY B/M 41653101

DATE	REV	DESCRIPTION OF CHANGE	INIT
11/01/85	A	CLASS A RELEASE OF LOGIC DIAGRAMS	
		WITH ECO #47428 INSTALLED.	WED
04/09/86	B	ECO #47730 PAGES 5 & 7.	LHJ
06/03/86	C	ECO #47738 PAGES 5, 6, 7, & 10.	LHJ
01/12/87	D	ECO #48330 PAGES 9 & 10	
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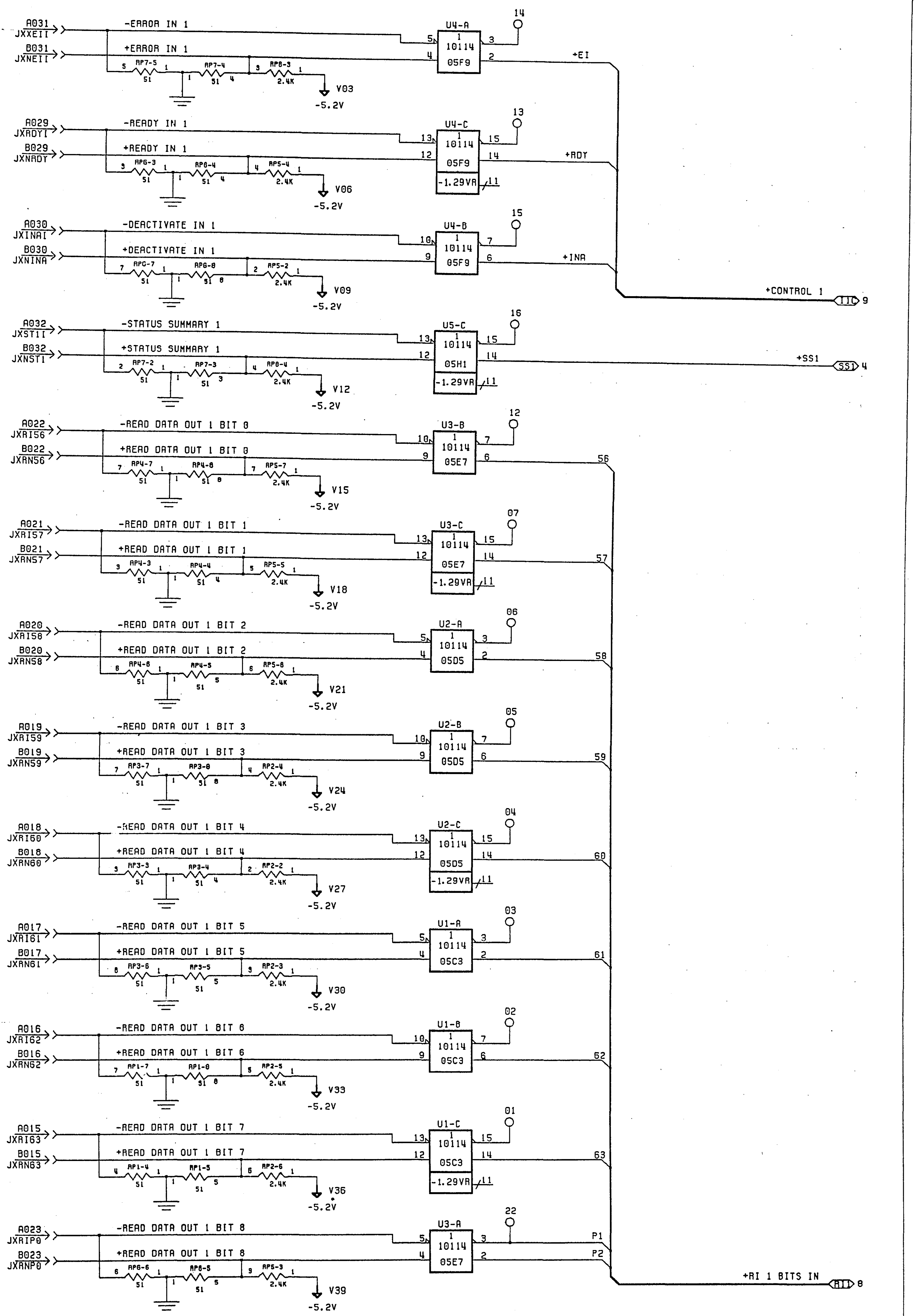
DWN	L H JOHNSON	11/01/85
CHKD	D A FORD	12/04/85
ENG	W E DIETHART	12/05/85
PUBS	A K BONDE	12/05/85
APP	W E DIETHART	12/05/85

NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

LOC: A23,A24

CONTROL DATA	REVISION HISTORY	B	DWG NO. 22105675	DATE 01/12/87	REV D
	TYPE 1JRH	SHEET NO. 1	60462210	PAGE JR-01	

RI 1 DATA IN



CONTROL DATA

RI BOARD
RI 1 DATA IN
TYPE 1JRH

B

DWG NO. 22105675

DATE 11/01/85

REV A

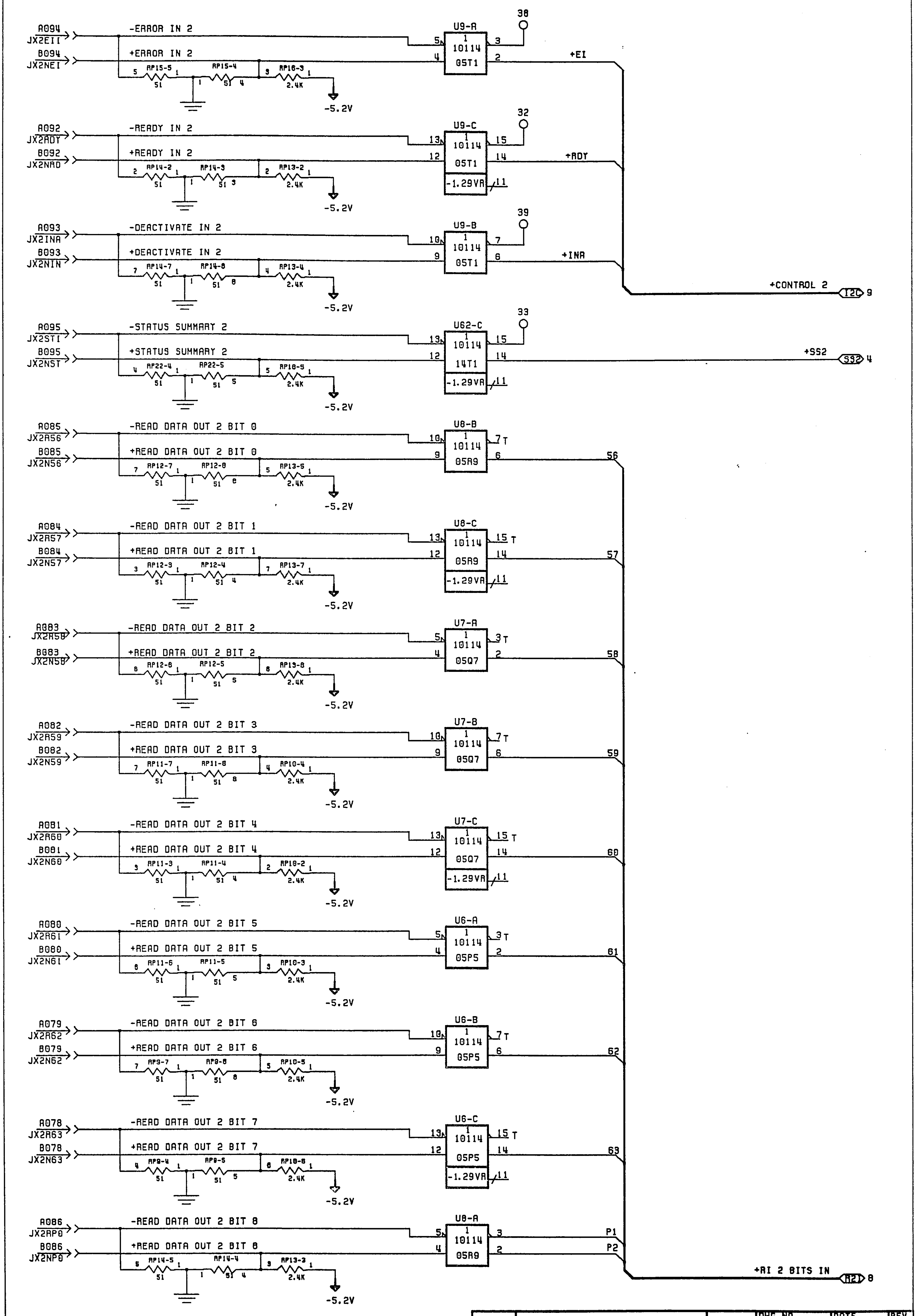
N

SHEET NO. 2

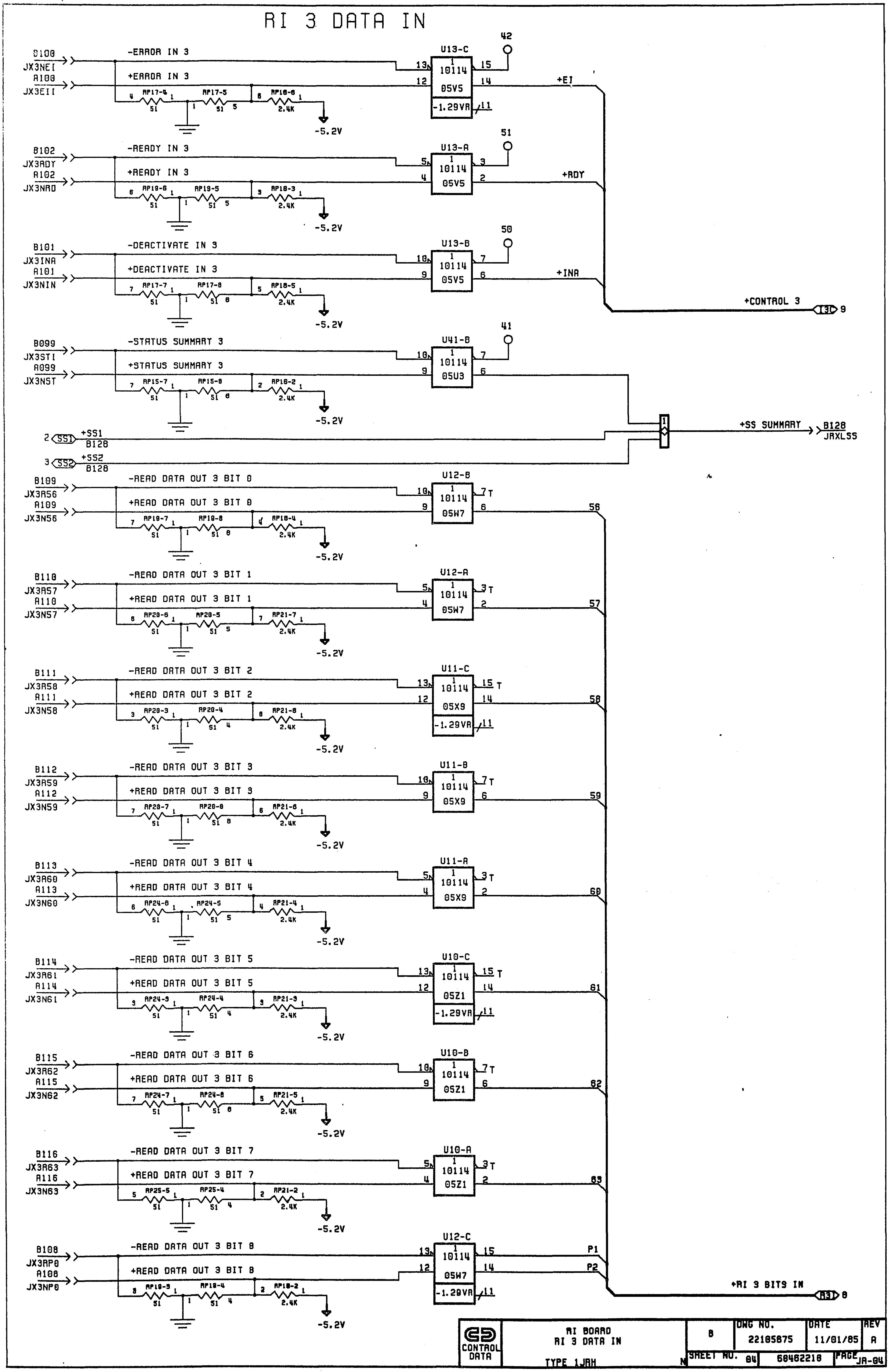
60462210

PAGE JR-02

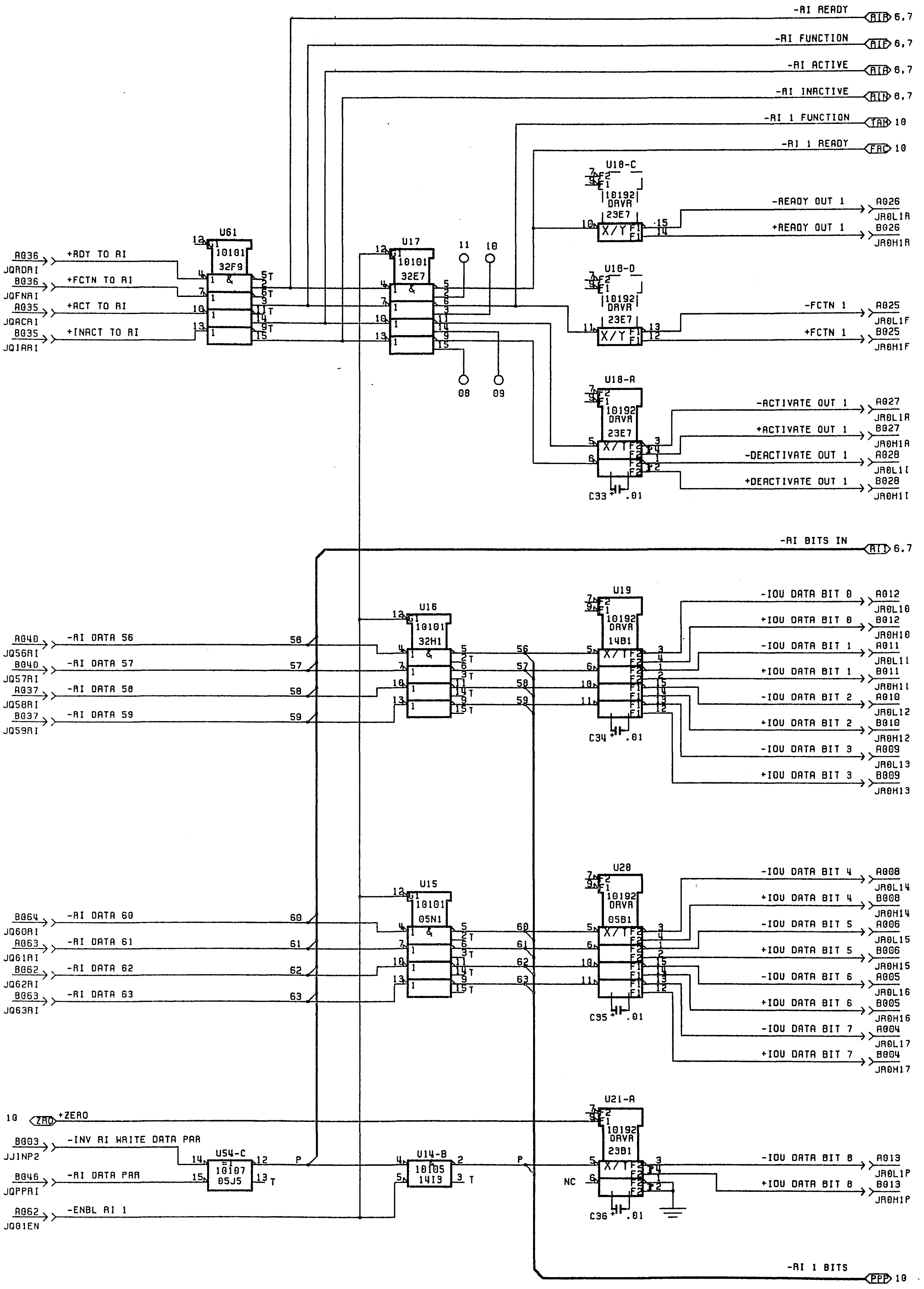
RI 2 DATA IN



CONTROL DATA	RI BOARD RI 2 DATA IN TYPE 1JAH	B	DWG NO. 22105675	DATE 11/01/85	REV A
		SHEET NO.	03	60462210	PAGE JR-03


RI 3 DATA IN
B100 JX3NEI A100 JX3EII
-ERROR IN 3
+ERROR IN 3
U13-C 10114 05V5 -1.29VR
42
+EI
B102 JX3RDY A102 JX3NRD
-READY IN 3
+READY IN 3
U13-A 10114 05V5
51
+RDY
B101 JX3INA A101 JX3NIN
-DEACTIVATE IN 3
+DEACTIVATE IN 3
U13-B 10114 05V5
50
+INA
+CONTROL 3
13C 9
B099 JX3STI A099 JX3NST
-STATUS SUMMARY 3
+STATUS SUMMARY 3
U41-B 10114 05U3
41
2 SS1 +SS1 B128
3 SS2 +SS2 B128
+SS SUMMARY B128 JRXLSS
B109 JX3R56 A109 JX3N56
-READ DATA OUT 3 BIT 0
+READ DATA OUT 3 BIT 0
U12-B 10114 05W7
56
B110 JX3R57 A110 JX3N57
-READ DATA OUT 3 BIT 1
+READ DATA OUT 3 BIT 1
U12-A 10114 05W7
57
B111 JX3R58 A111 JX3N58
-READ DATA OUT 3 BIT 2
+READ DATA OUT 3 BIT 2
U11-C 10114 05X9 -1.29VR
58
B112 JX3R59 A112 JX3N59
-READ DATA OUT 3 BIT 3
+READ DATA OUT 3 BIT 3
U11-B 10114 05X9
59
B113 JX3R60 A113 JX3N60
-READ DATA OUT 3 BIT 4
+READ DATA OUT 3 BIT 4
U11-A 10114 05X9
60
B114 JX3R61 A114 JX3N61
-READ DATA OUT 3 BIT 5
+READ DATA OUT 3 BIT 5
U10-C 10114 05Z1 -1.29VR
61
B115 JX3R62 A115 JX3N62
-READ DATA OUT 3 BIT 6
+READ DATA OUT 3 BIT 6
U10-B 10114 05Z1
62
B116 JX3R63 A116 JX3N63
-READ DATA OUT 3 BIT 7
+READ DATA OUT 3 BIT 7
U10-A 10114 05Z1
63
B108 JX3RP0 A108 JX3NP0
-READ DATA OUT 3 BIT 8
+READ DATA OUT 3 BIT 8
U12-C 10114 05W7 -1.29VR
P1
P2
+RI 3 BITS IN
R3I 8
51
2.4K
-5.2V
CONTROL DATA
RI BOARD
RI 3 DATA IN
TYPE 1JAH
B
DWG NO. 22185875
DATE 11/01/85
REV A
SHEET NO. 04
60462210
PAGE JA-04

RI 1 OUT

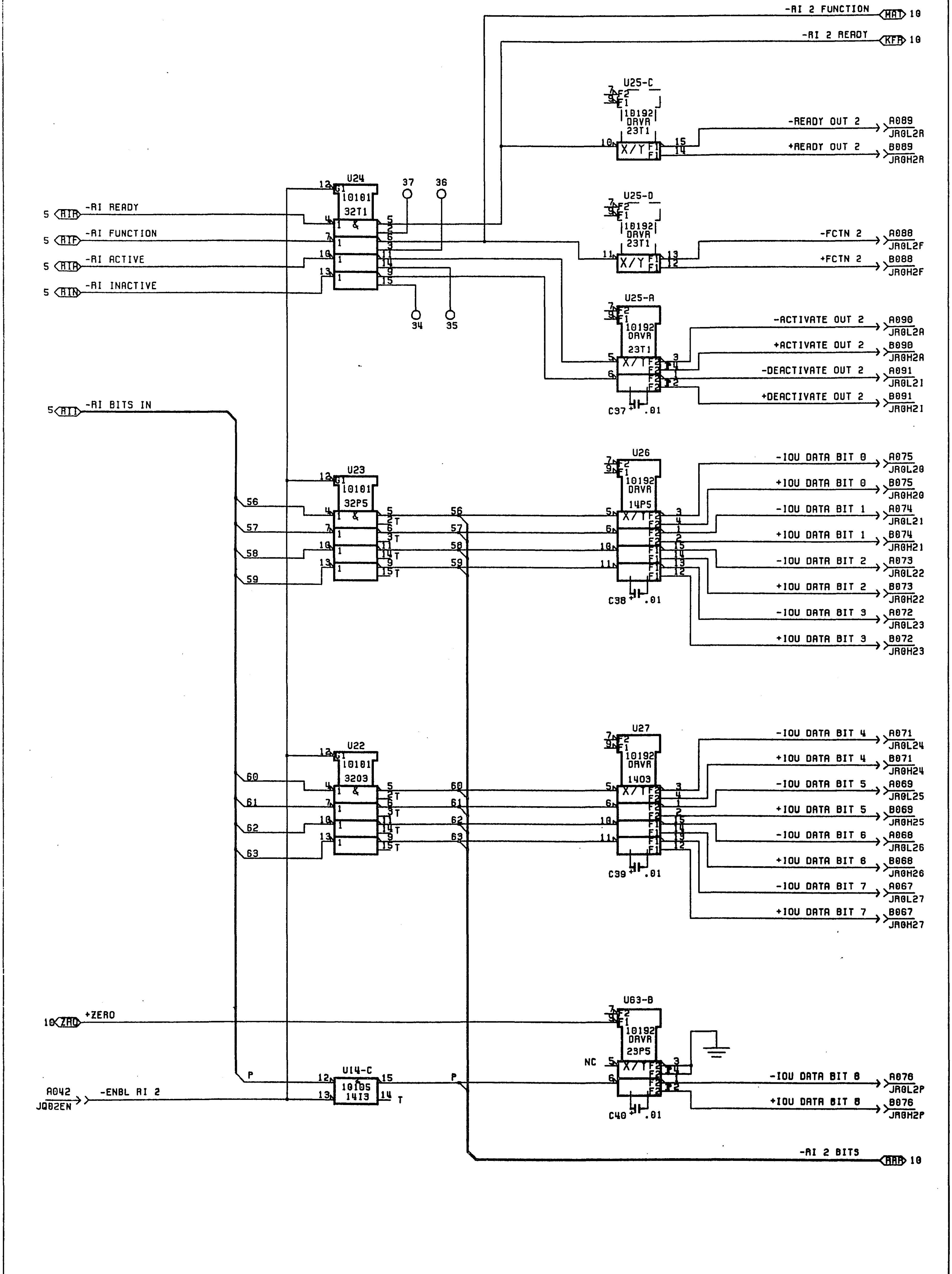


CONTROL DATA

RI BOARD
RI 1 OUT
TYPE 1JAH

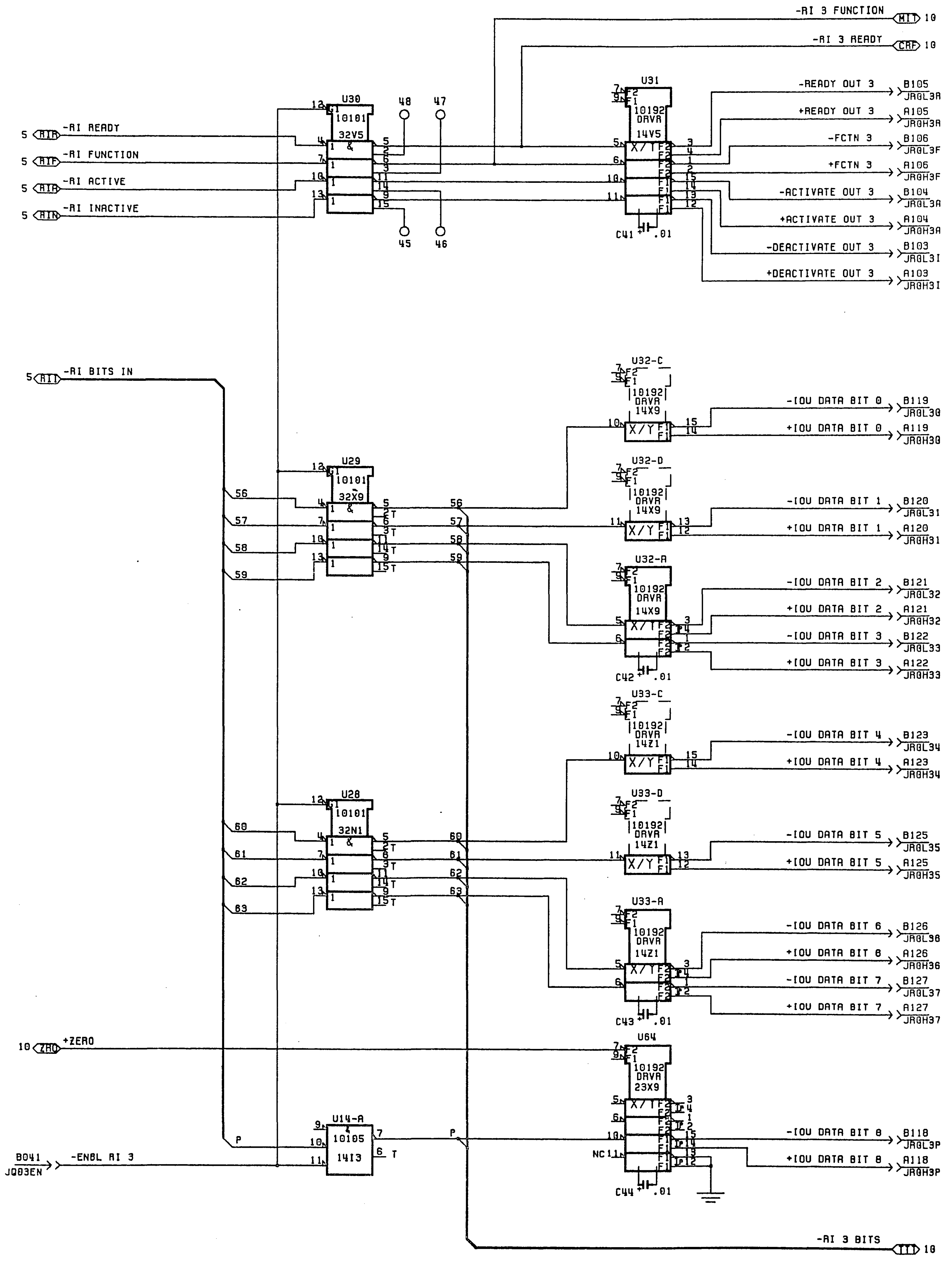
B	DWG NO. 22105675	DATE 06/03/86	REV C
SHEET NO. 5	60462210	PAGE JA-05	

AI 2 OUT



CONTROL DATA	AI BOARD AI 2 OUT TYPE 1JAH	B	DWG NO. 22105675	DATE 06/03/86	REV C
		SHEET NO. 6	60462210	PAGE JA-06	

RI 3 OUT

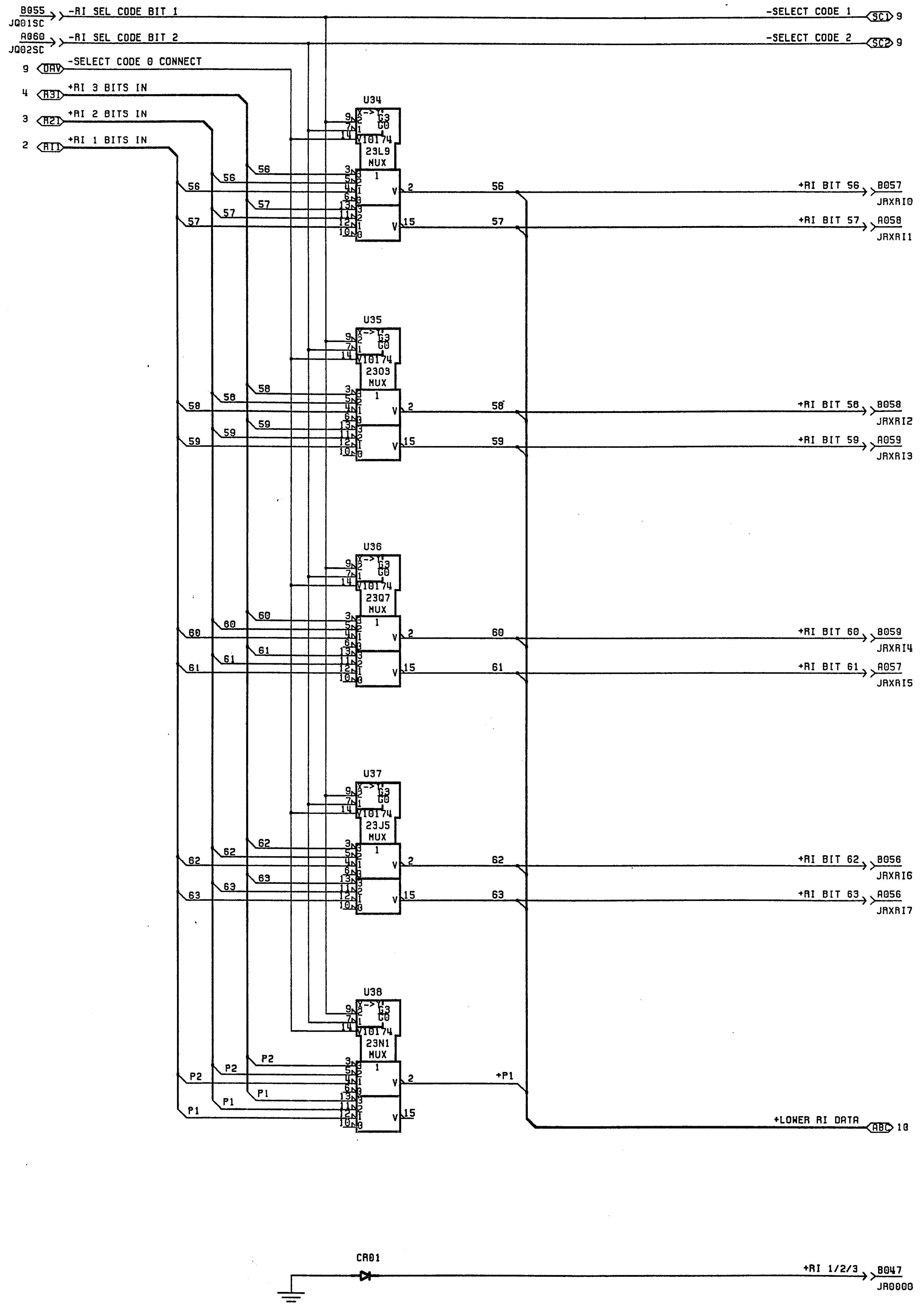


CONTROL DATA

RI BOARD
RI 3 OUT
TYPE 1JAH

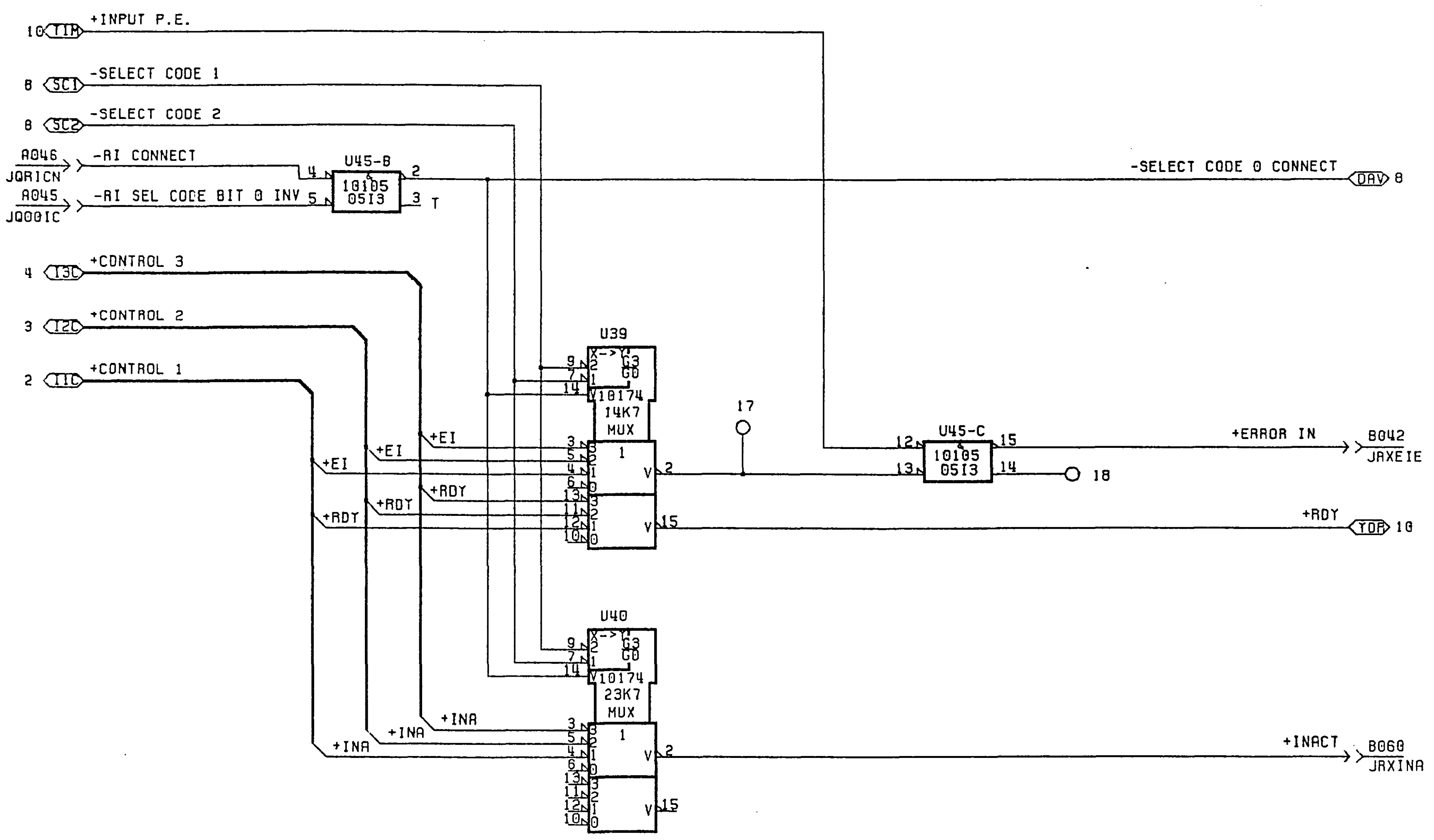
B	DWG NO. 22185675	DATE 06/03/86	REV C
SHEET NO. 7	60462210	PAGE JA-07	

INPUT RI MUX

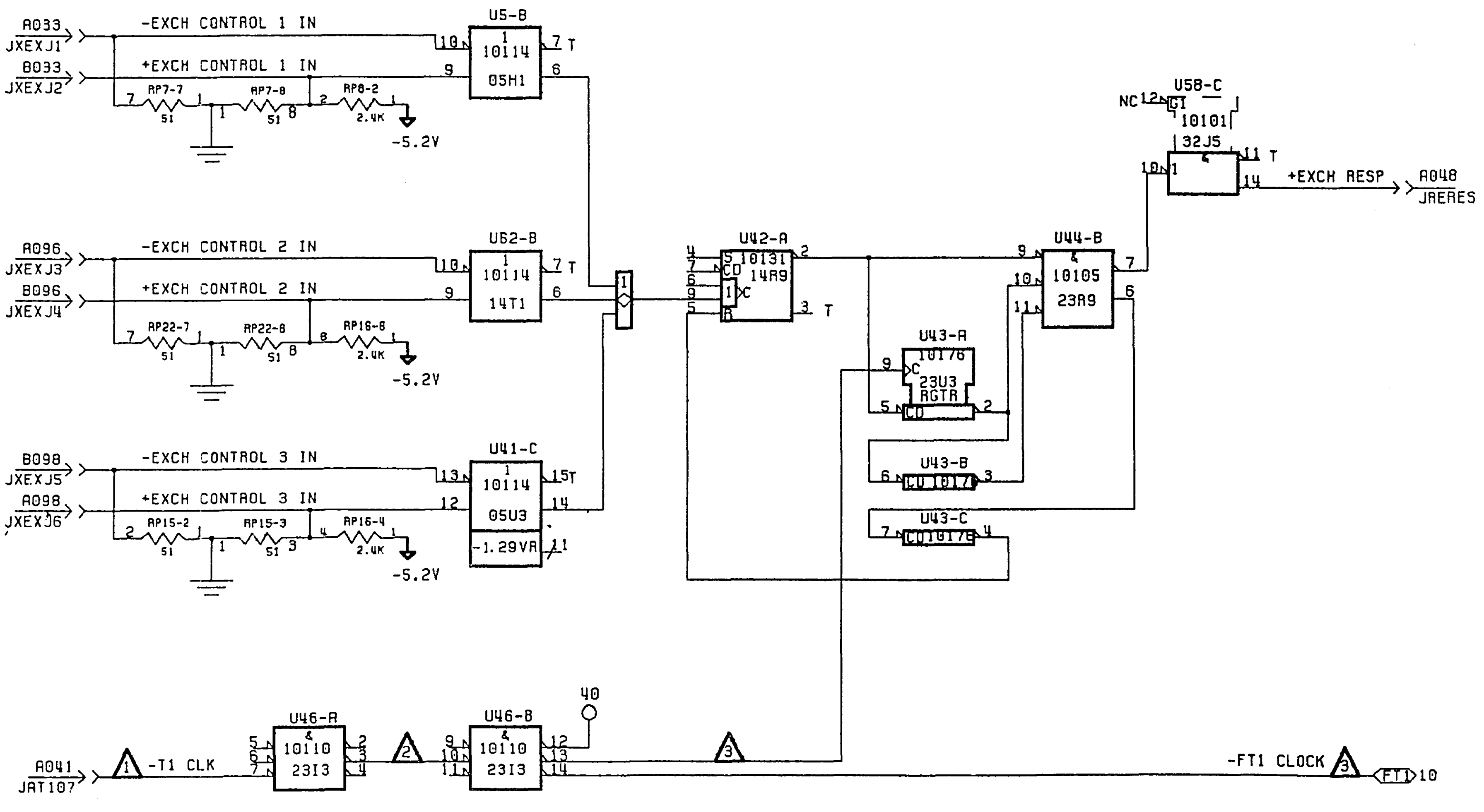


	RI BOARD INPUT RI MUX TYPE 1JAH	B	DWG NO. 22105675	DATE 11/01/85	REV A
CONTROL DATA		SHEET NO.	8	60462210	PAGE JA-08

INPUT RI MUX-CONTROL SIGNALS



EXCH SYNC



A033 JXEXJ1 -EXCH CONTROL 1 IN
B033 JXEXJ2 +EXCH CONTROL 1 IN
U5-B 10114 05H1
RP7-7 51 RP7-8 51 RP8-2 2.4K -5.2V
A096 JXEXJ3 -EXCH CONTROL 2 IN
B096 JXEXJ4 +EXCH CONTROL 2 IN
U62-B 10114 14T1
RP22-7 51 RP22-8 51 RP16-8 2.4K -5.2V
B098 JXEXJ5 -EXCH CONTROL 3 IN
A098 JXEXJ6 +EXCH CONTROL 3 IN
U41-C 10114 05U3 -1.29VR
RP15-2 51 RP15-3 51 RP16-4 2.4K -5.2V
U42-A 10131 14A9
U43-A 10176 23U3 RGTR
U43-B CD 10176
U43-C CD 10176
U44-B 10105 23A9
U58-C NC G1 10101 32J5
+EXCH RESP A048 JREAES
A041 JAT107 -T1 CLK
U46-A 10110 2313
U46-B 10110 2313
40
-FT1 CLOCK FT1 10

1. MAXIMUM LENGTH 4 INCHES

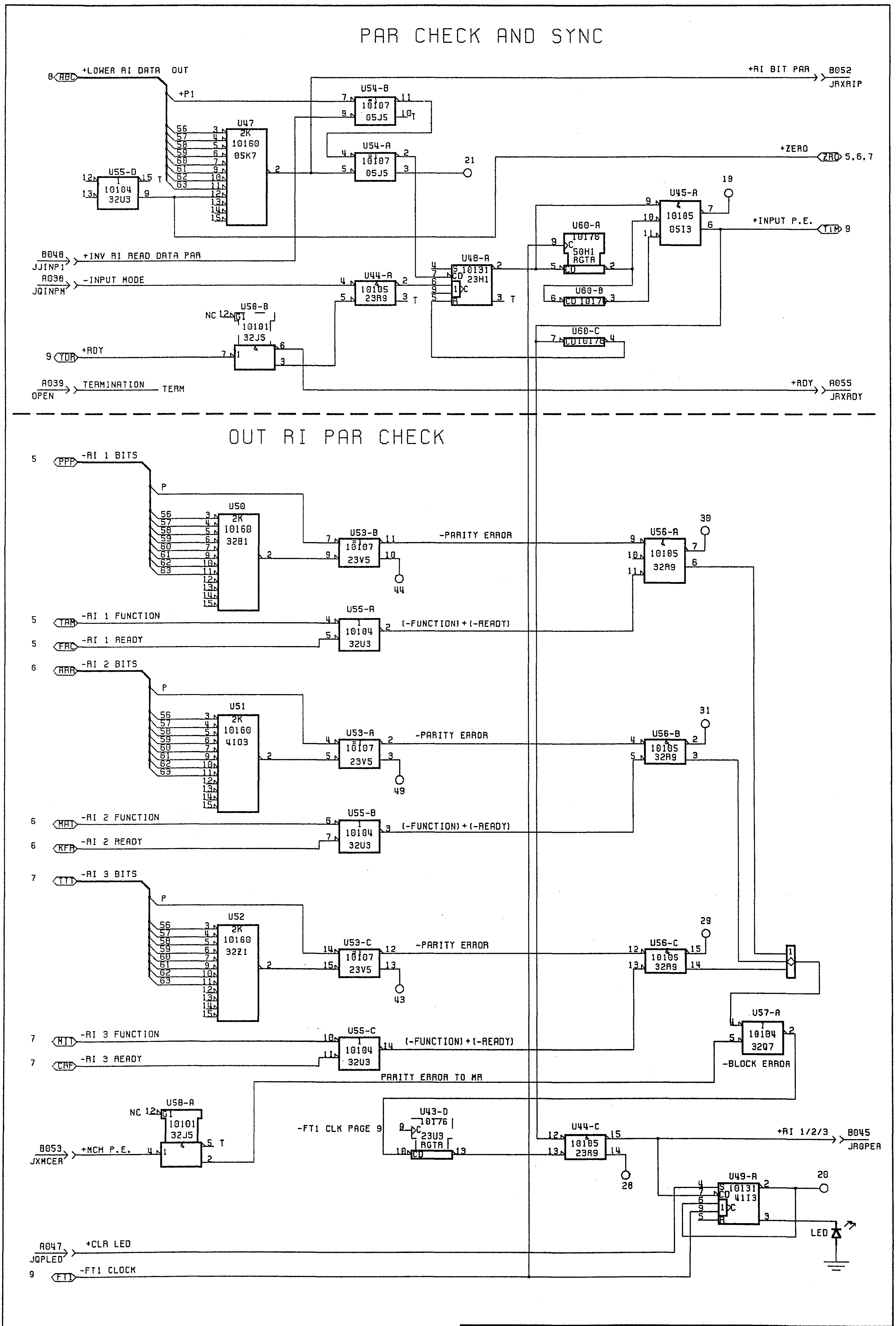
2. MAXIMUM LENGTH 7 INCHES

3. MAXIMUM LENGTH 12 INCHES

CONTROL DATA

RI BOARD
INPUT RI MUX-CONTROL SIGNALS
AND EXCHANGE SYNC
TYPE 1JAH

B	DWG NO. 22105675		DATE 01/12/87	REV 0
SHEET NO.	9	60462210	PAGE JR-09	



CONTROL DATA

RI BOARD
PARITY CHECK & SYNC
AND OUTPUT RI PARITY CHECK
TYPE 1JRH

B	DWG NO. 22105675	DATE 01/12/87	REV D
SHEET NO. 10	60462210	PAGE JR-10	

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	02	+RI 1 BIT 63 IN	27		
02	02	+RI 1 BIT 62 IN	28	10	-RI P.E. TO MR LOWER
03	02	+RI 1 BIT 61 IN	29	10	-RI 3 P.E.&-FUNC+RDY
04	02	+RI 1 BIT 60 IN	30	10	-RI 1 P.E.&-FUNC+RDY
05	02	+RI 1 BIT 59 IN	31	10	-RI 2 P.E.&-FUNC+RDY
06	02	+RI 1 BIT 58 IN	32	03	-READY CONTROL 2 IN
07	02	+RI 1 BIT 57 IN	33	03	-STATUS CTRL 2 IN
08	05	+RI 1 INACTIVE	34	06	+RI 2 INACTIVE
09	05	+RI 1 ACTIVE	35	06	+RI 2 ACTIVE
10	05	+RI 1 FUNCTION	36	06	+RI 2 FUNCTION
11	05	+RI 1 READY	37	06	+RI 2 READY
12	02	+RI 1 BIT 56 IN	38	03	-EI CONTROL 2 IN
13	02	-READY CONTROL 1 IN	39	03	-INA CONTROL 2 IN
14	02	-EI CONTROL 1 IN	40	09	-FT1 CLOCK
15	02	-INA CONTROL 1 IN	41	04	-STATUS CTRL 3 IN
16	02	-STATUS CTRL 1 IN	42	04	-EI CONTROL 3 IN
17	09	+EI CONTROL	43	10	+RI 3 PARITY ERROR
18	09	-EI ERROR OUT LOWER	44	10	+RI 1 PARITY ERROR
19	10	-INPUT PARITY ERROR	45	07	+RI 3 INACTIVE
20	10	-BOARD ERROR	46	07	+RI 3 ACTIVE
21	10	-LOWER RI P BIT	47	07	+RI 3 FUNCTION
22	02	-RI 1 BIT P1 IN	48	07	+RI 3 READY
23			49	10	+RI 2 PARITY ERROR
24			50	04	-INA CONTROL 3 IN
25			51	04	-READY CONTROL 3 IN
26					

CONNECTOR PINS	
GND	A014,B014,A024,B024,A034,B034,A054,B054,A065, B065,A066,B066,A077,B077,A097,B097,A107, B107,A117,B117
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	A061,B061,A070,B070 [NOT USED]
TERM	A039
UNUSED	A003,B038,B039,A043,B043,A049,B049,A050 B050,A051,B051,A052,A053,A064,A128

CONTROL DATA	RI BOARD TESTPOINTS & SIGNAL NAMES AND CONNECTOR PINS TYPE 1JAH	B	DWG NO. 22105675	DATE 11/01/85	REV A
		SHEET NO. 11	60462210	PAGE JA-11	

CAUTION

There are two sets of logic diagrams for this board. Each set supports a different board version. The appropriate logic diagram set for your board has a board master (B/M) number that matches the printed wiring board (PWB) number of the board. The B/M number is located in the upper right corner of the diagram set cover page (sheet 1), and the PWB number is located on the back of the board.

1JSH MAINTENANCE RGTR A BOARD

REVISION HISTORY B/M 41653301

DATE	REV	DESCRIPTION OF CHANGE	INIT
11/01/85	A	CLASS A RELEASE OF LOGIC DIAGRAMS	
		WITH ECO #46886 INSTALLED.	JPS
04/09/86	B	ECO #47730 PAGES 7, 12, 14, 19, 20, 22,	
		23, 24, 25, 27, & 28.	LHJ
08/26/86	C	ECO #47748 PAGES 23, 25 & 28.	LHJ
10/09/86	D	ECO #48326 PAGES 2 & 4.	LHJ
01/12/87	E	ECO #48330 PAGE 23	
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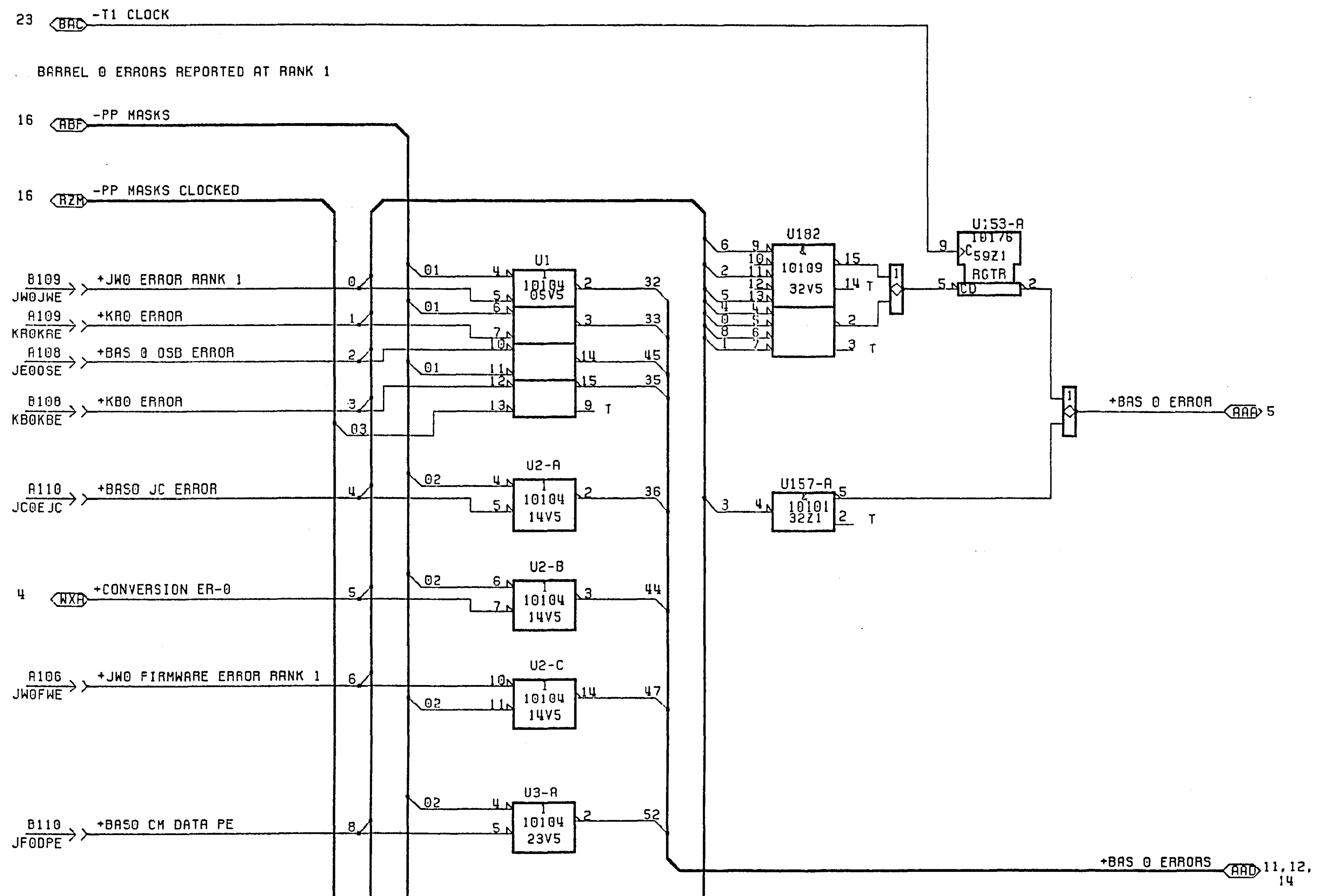
DWN	L H JOHNSON	11/01/85
CHKD	D A FORD	12/04/85
ENG	J P STROMBECK	12/04/85
PUBS	A K BONDE	12/05/85
APP	J P STROMBECK	12/04/85

NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

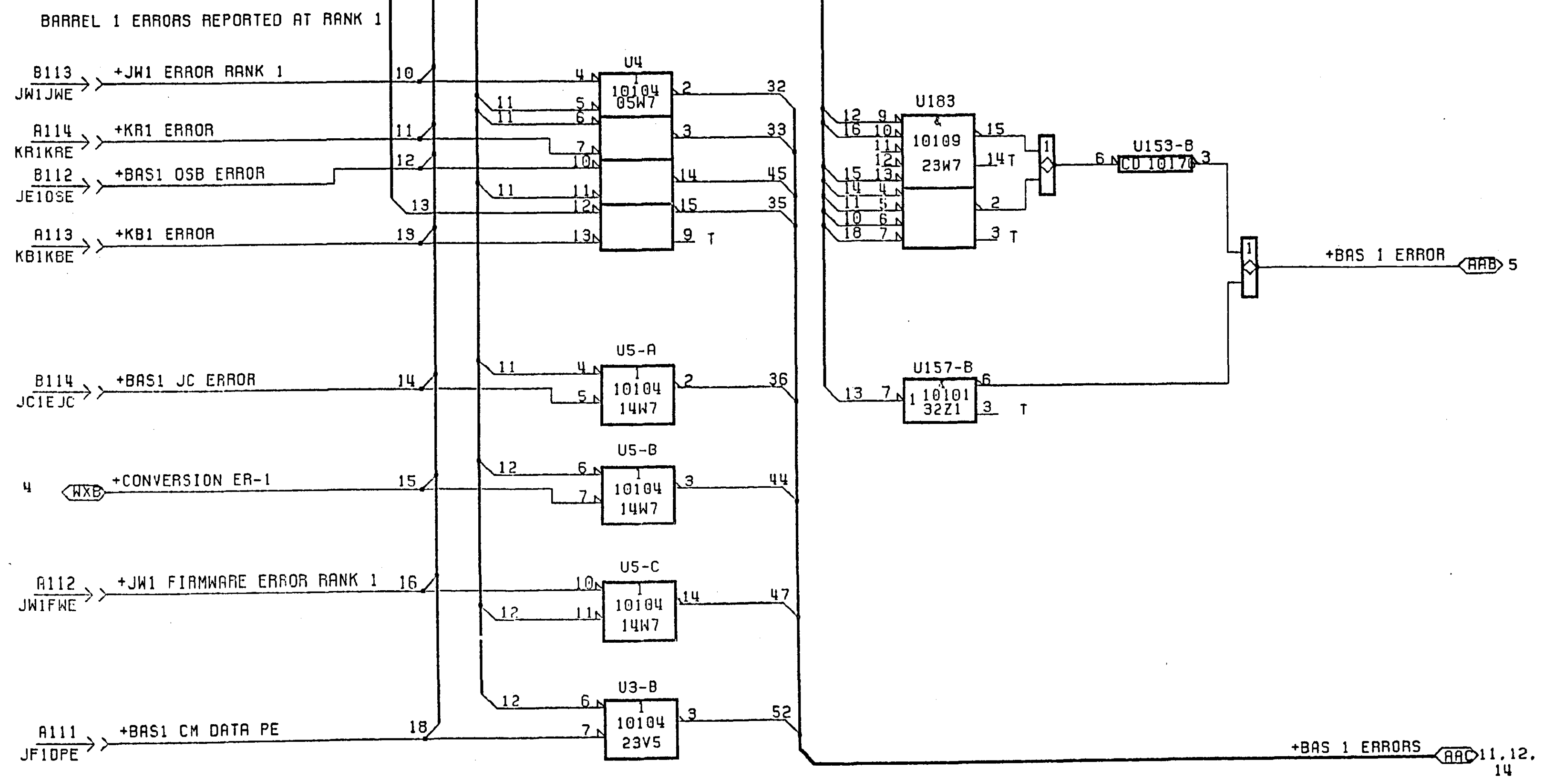
LOC: A20,D27

CONTROL DATA	REVISION HISTORY TYPE 1JSH	B	DWG NO. 53575516	DATE 01/12/87	REV E
		N	SHEET NO. 1	60462210	PAGE JS-01

MASK AND GROUP ERRORS-BAS 0



MASK AND GROUP ERRORS-BAS 1

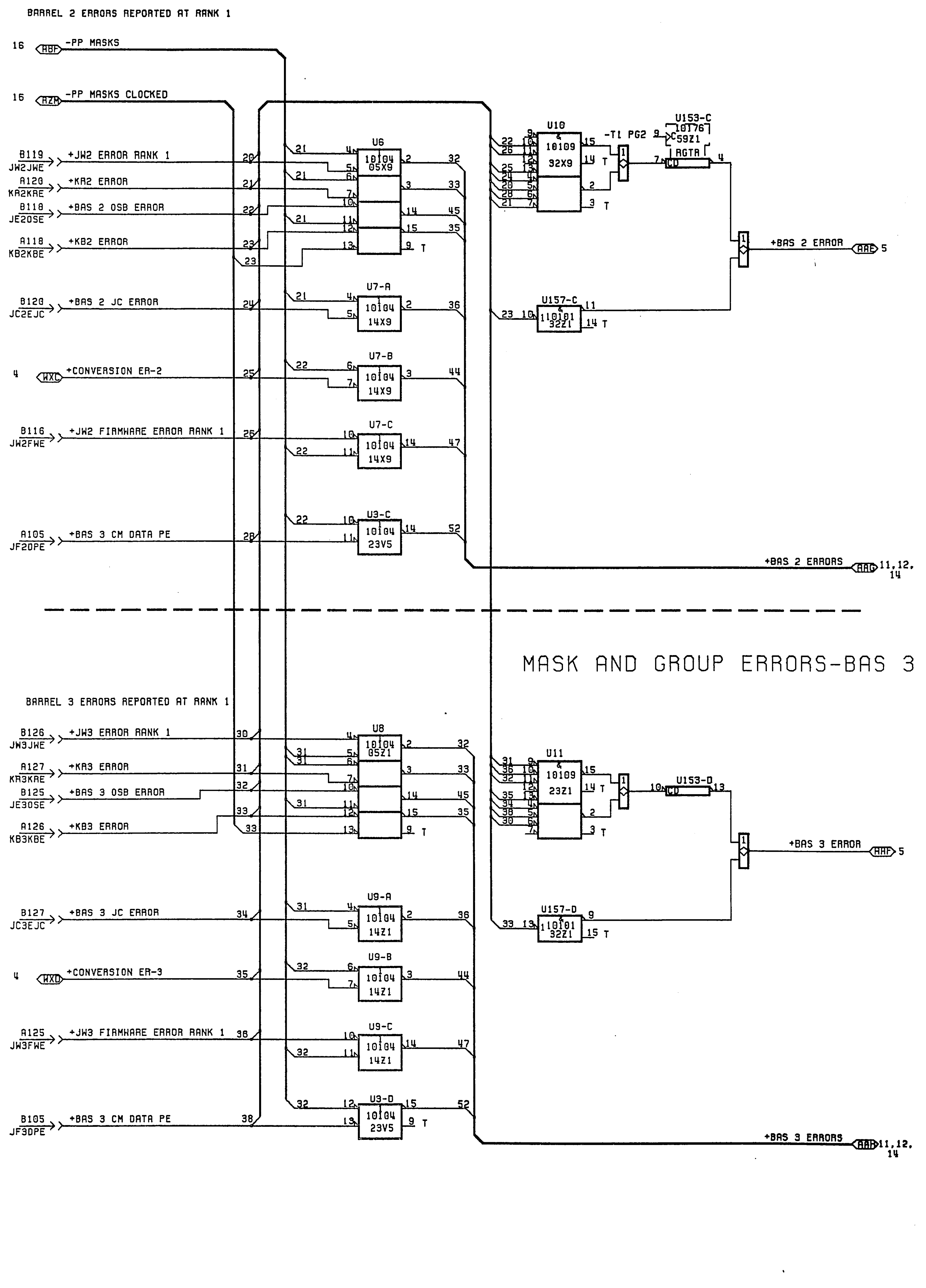

BARREL 1 ERRORS REPORTED AT RANK 1
B113 JW1JWE +JW1 ERROR RANK 1
A114 KR1KRE +KR1 ERROR
B112 JE1OSE +BAS1 OSB ERROR
A113 KB1KBE +KB1 ERROR
B114 JC1EJC +BAS1 JC ERROR
4 WXB +CONVERSION ER-1
A112 JW1FWE +JW1 FIRMWARE ERROR RANK 1
A111 JF1DPE +BAS1 CM DATA PE
U4 10104 05W7
U5-A 10104 14W7
U5-B 10104 14W7
U5-C 10104 14W7
U3-B 10104 23V5
U183 & 10109 23W7
U153-B CD 10176
U157-B 10101 32Z1
+BAS 1 ERROR AAB 5
+BAS 1 ERRORS AAC 11, 12, 14

CONTROL DATA

MAINTENANCE REGISTER A
MASK AND GROUP ERRORS
BARRELS 0 & 1
TYPE 1J5H

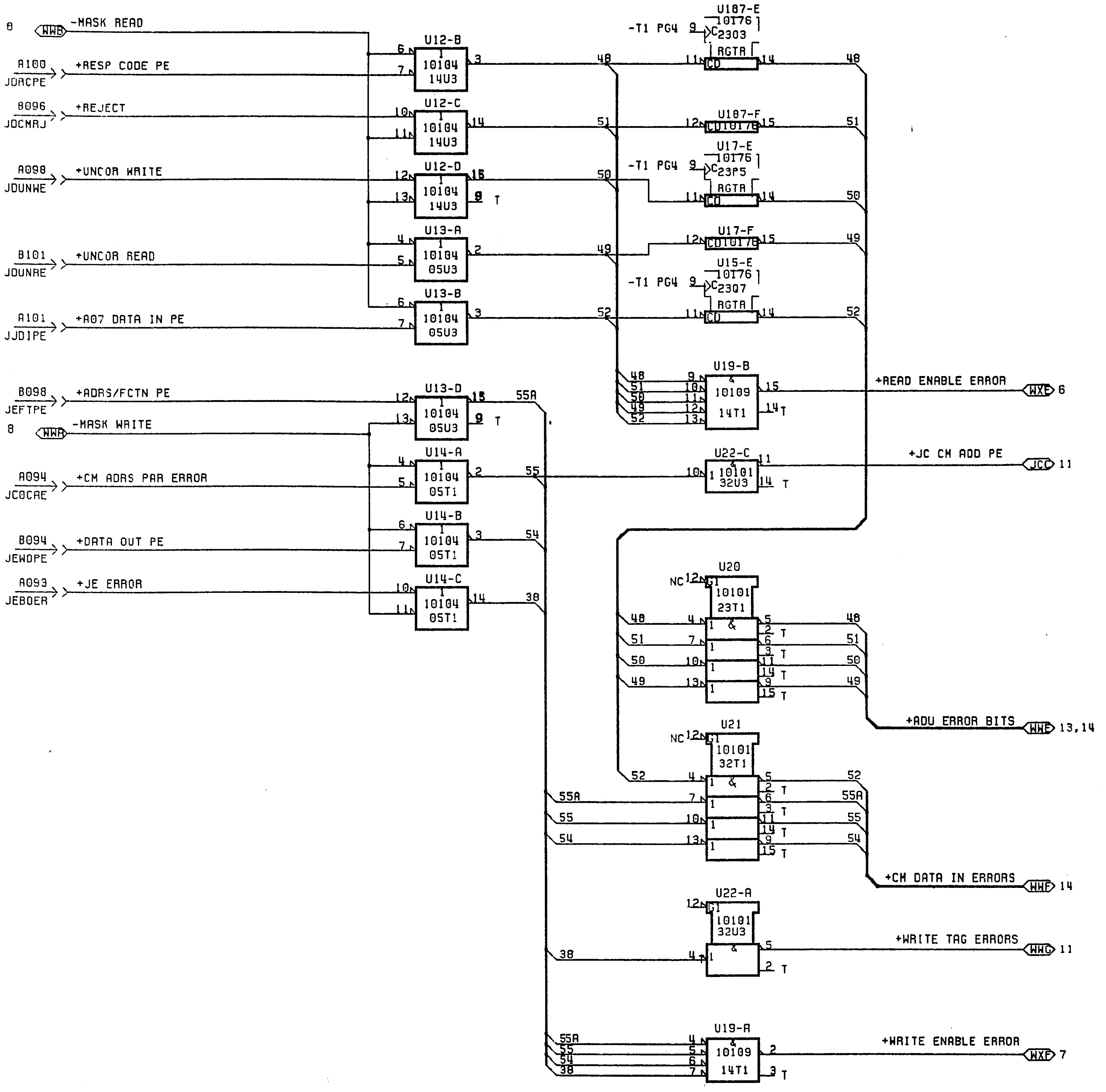
	DWG NO.	DATE	REV
B	53575516	10/09/86	D
SHEET NO. 2	60462210	PAGE JS-02	

MASK AND GROUP ERRORS-BAS 2

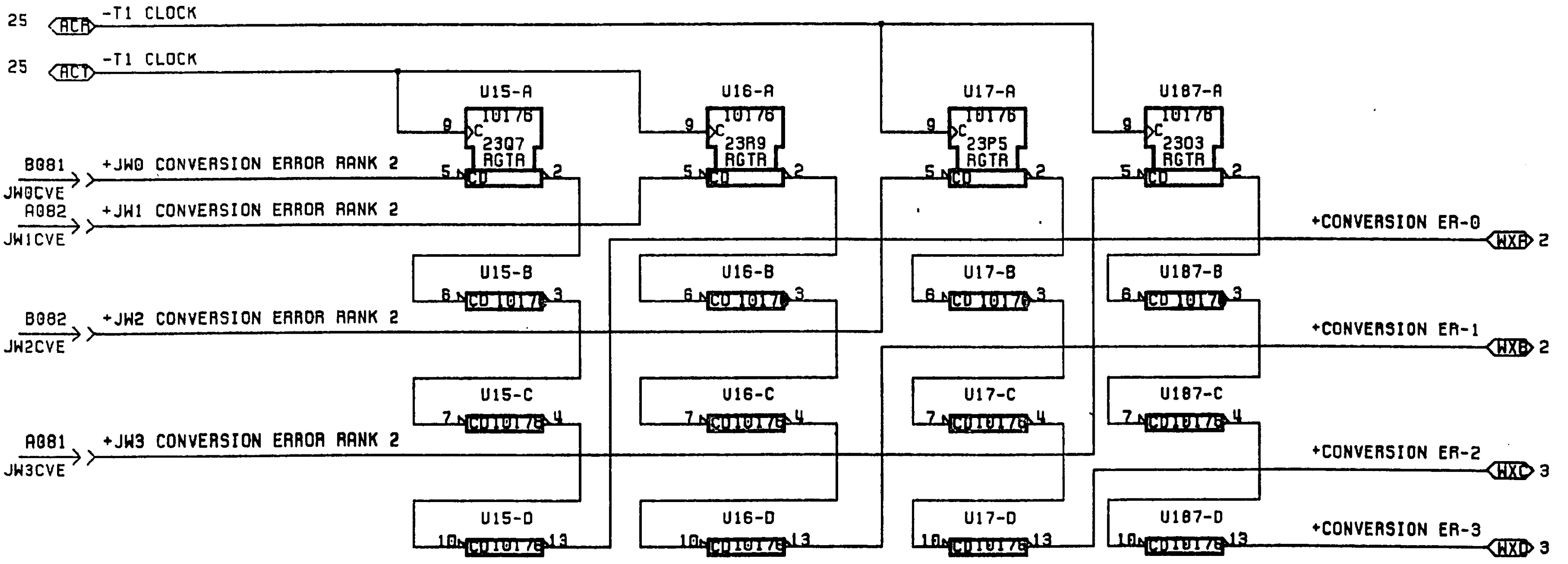


CONTROL DATA	MAINTENANCE REGISTER A MASK AND GROUP ERRORS BARRELS 2 & 3 TYPE IJSA	B	DWG NO. 53575516	DATE 11/01/85	REV A
			SHEET NO. 3	60462210	PAGE J9-09

ADU/BAS MASK AND GROUP ERRORS

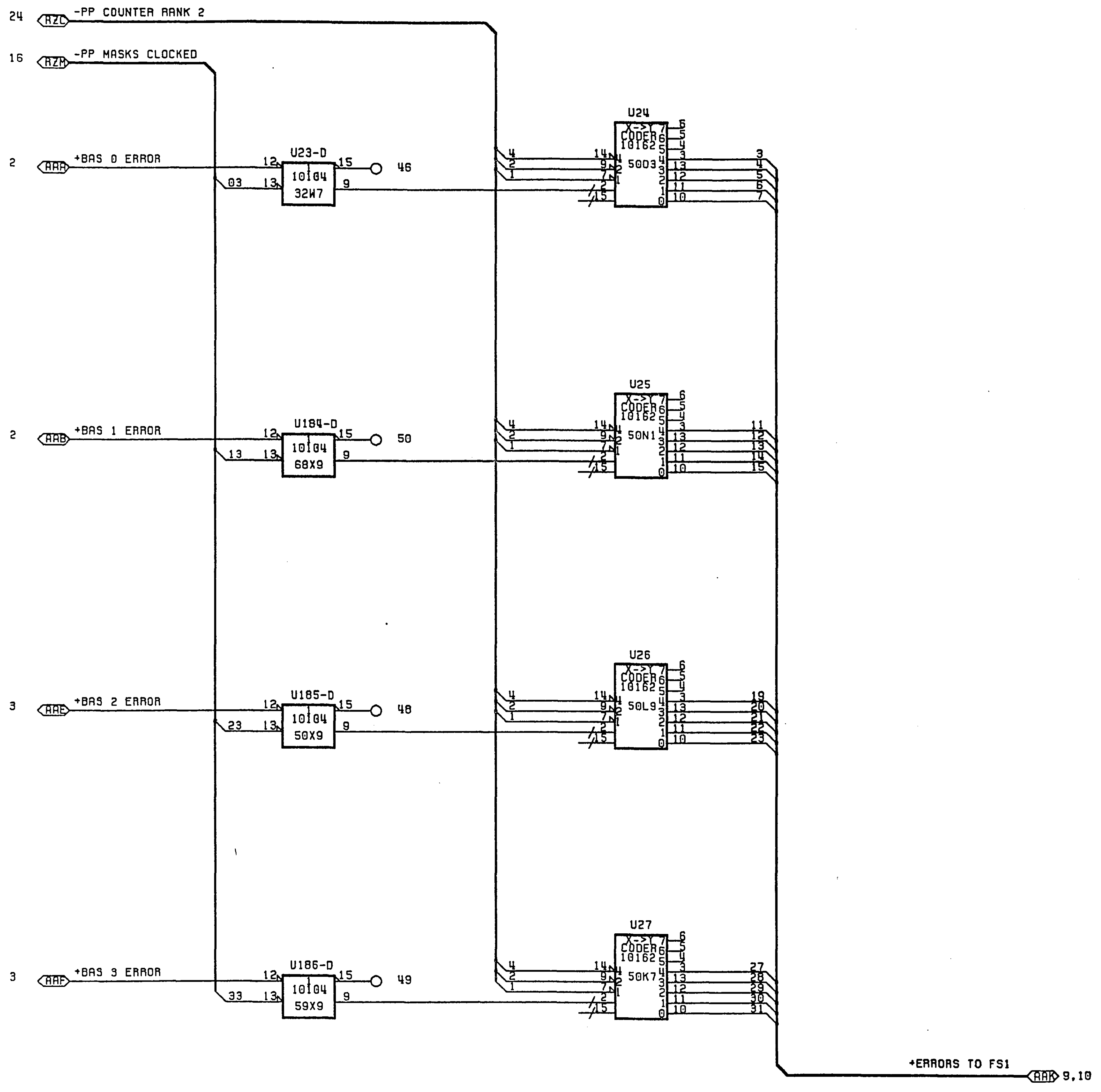


CONVERSION ERROR DLY



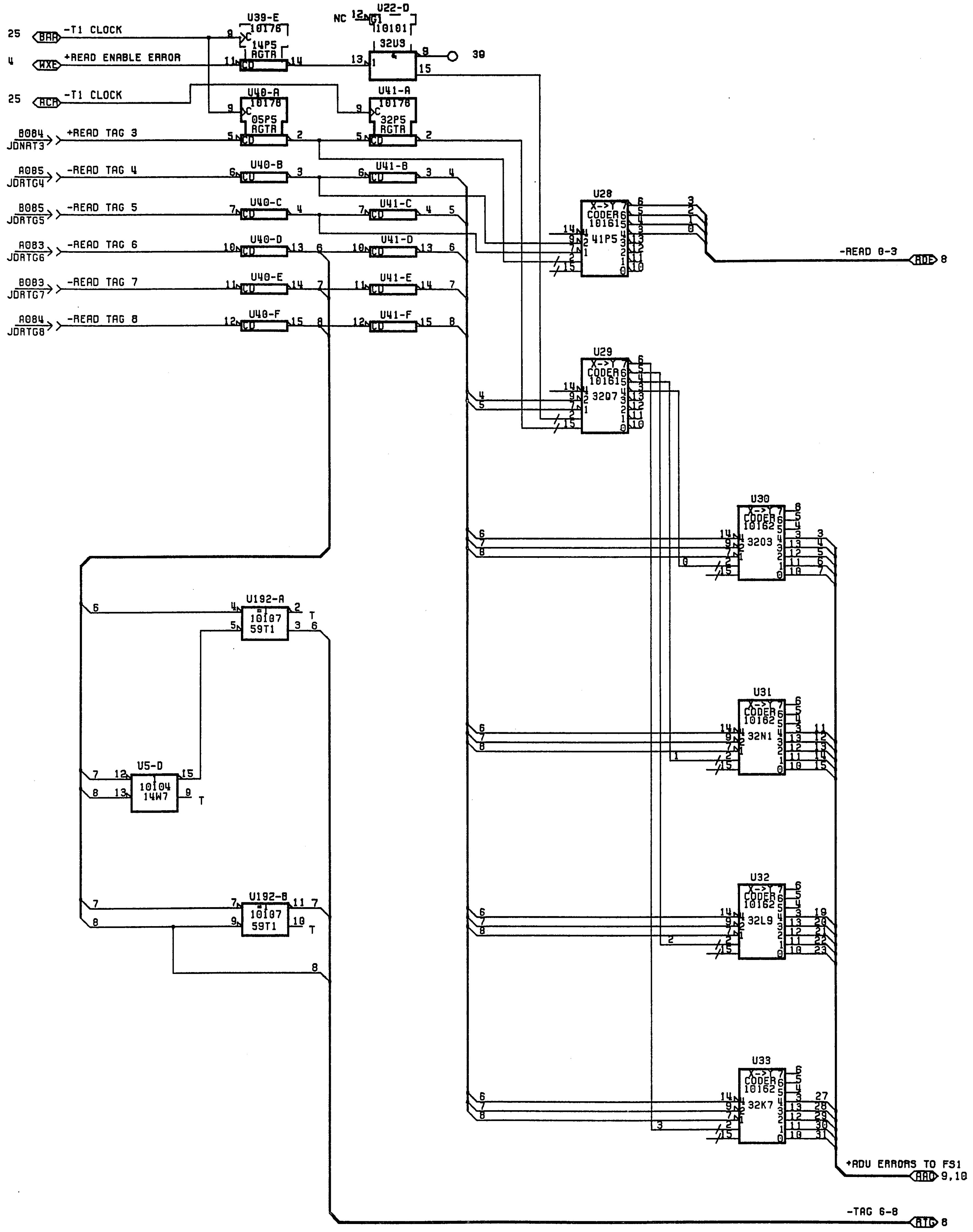
CONTROL DATA	MAINTENANCE REGISTER A MASK AND GROUP ERRORS WRITE AND READ ON ADU/BAS TYPE 1JSH	B	DWG NO. 53575516	DATE 10/09/86	REV D
		N	SHEET NO. 4	60462210	PAGE JS-04

BAS PPU ERROR GEN



CONTROL DATA	MAINTENANCE REGISTER A BARREL PPU ERROR GENERATOR TYPE 1JSH	B	DWG NO. 53575516	DATE 11/01/85	REV A
		SHEET NO. 5	60462210	PAGE JS-05	

READ TAG ERROR GEN

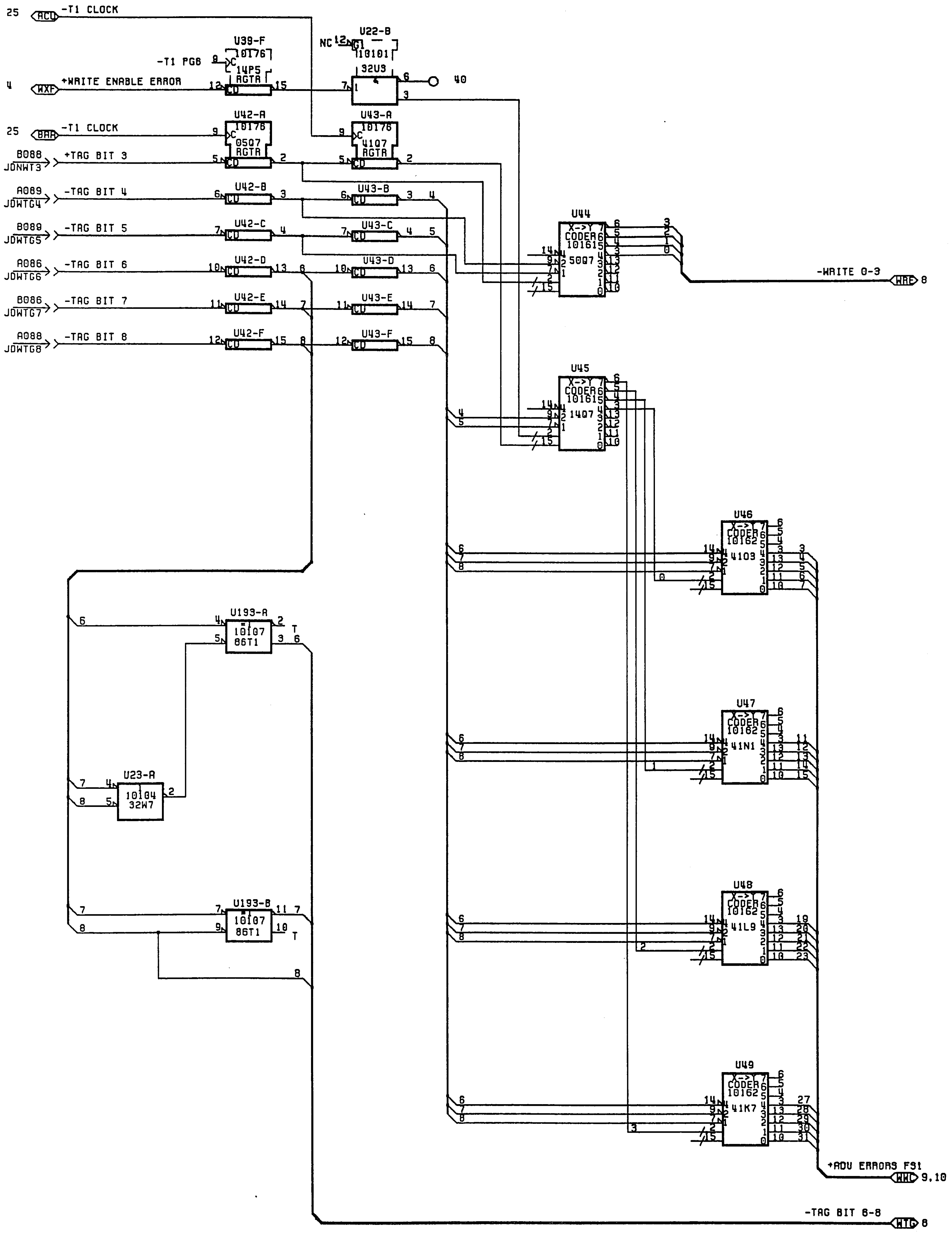


MAINTENANCE REGISTER A
READ TAG ERROR GENERATOR
TYPE 1JSH

CONTROL DATA

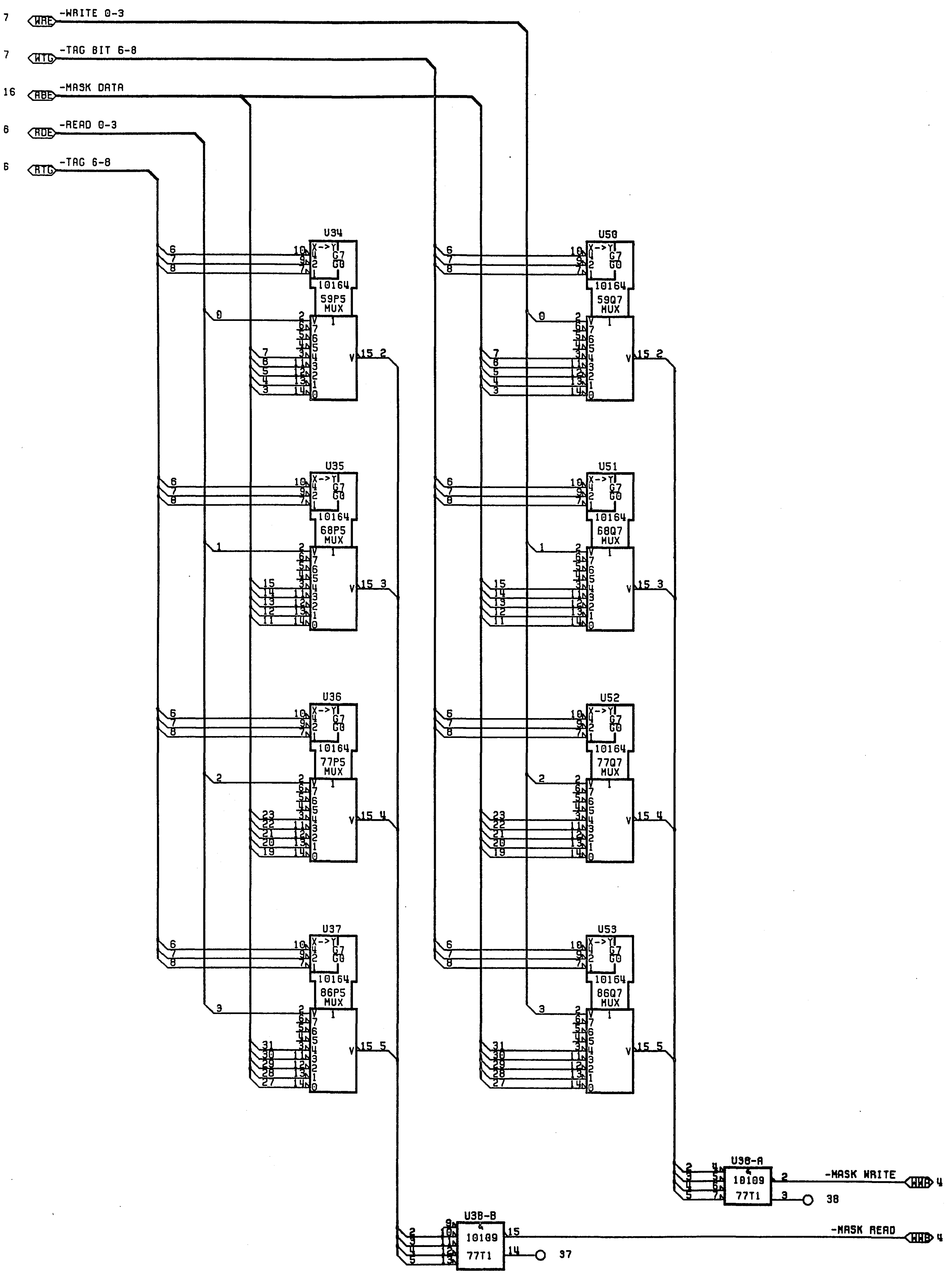
B	DWG NO. 53575516	DATE 11/01/85	REV A
SHEET NO. 6	60462210	PAGE JS-08	

WRITE TAG ERROR GEN



CONTROL DATA	MAINTENANCE REGISTER A WRITE TAG ERROR GENERATOR	B	DWG NO. 53575516	DATE 04/09/86	REV A
	TYPE 1JSH	N	SHEET NO. 7	60462210	PAGE J9-07

ADU/BAS MASK



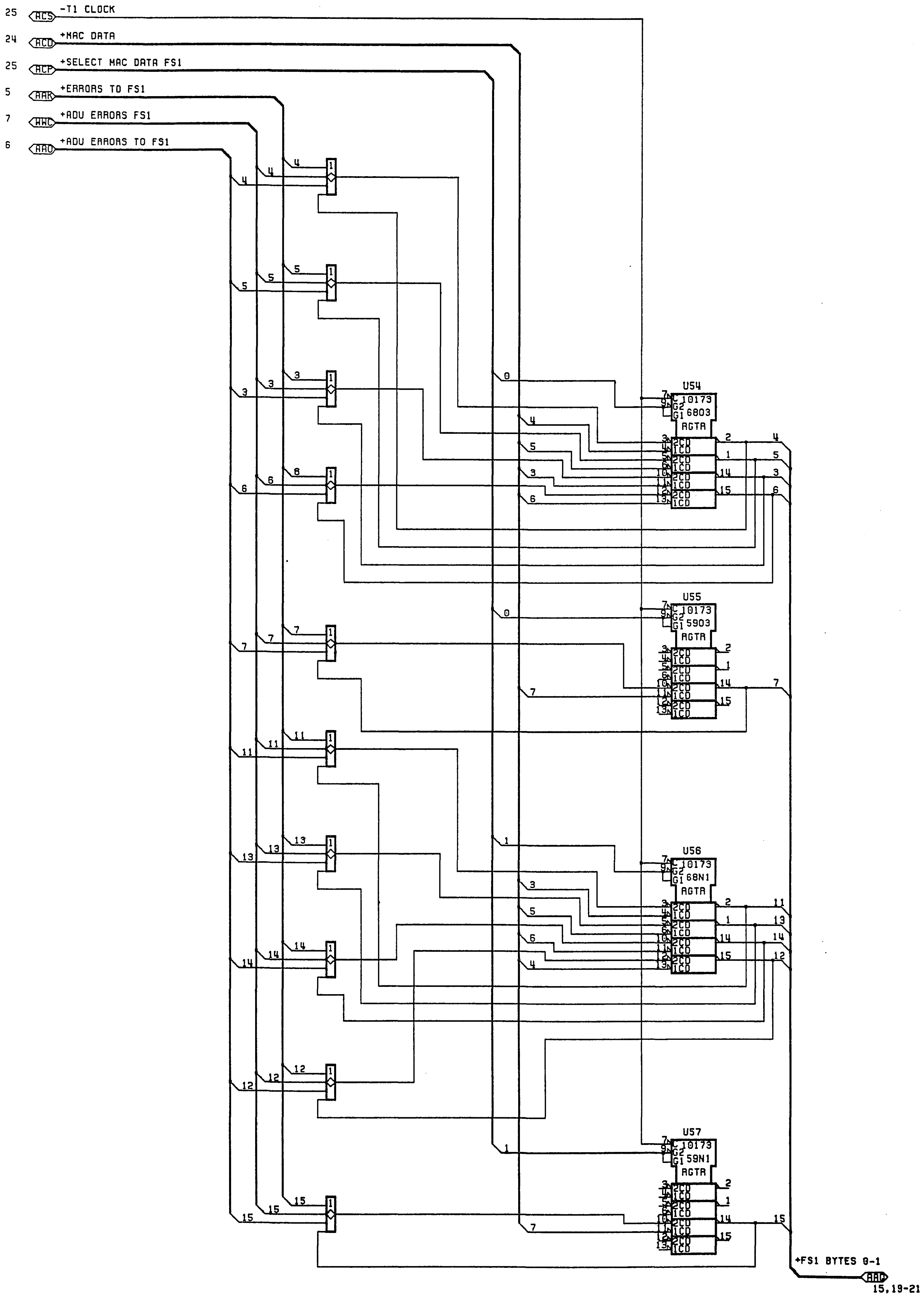
CONTROL DATA

MAINTENANCE REGISTER A
ADU/BAS MASK

TYPE 1JSH

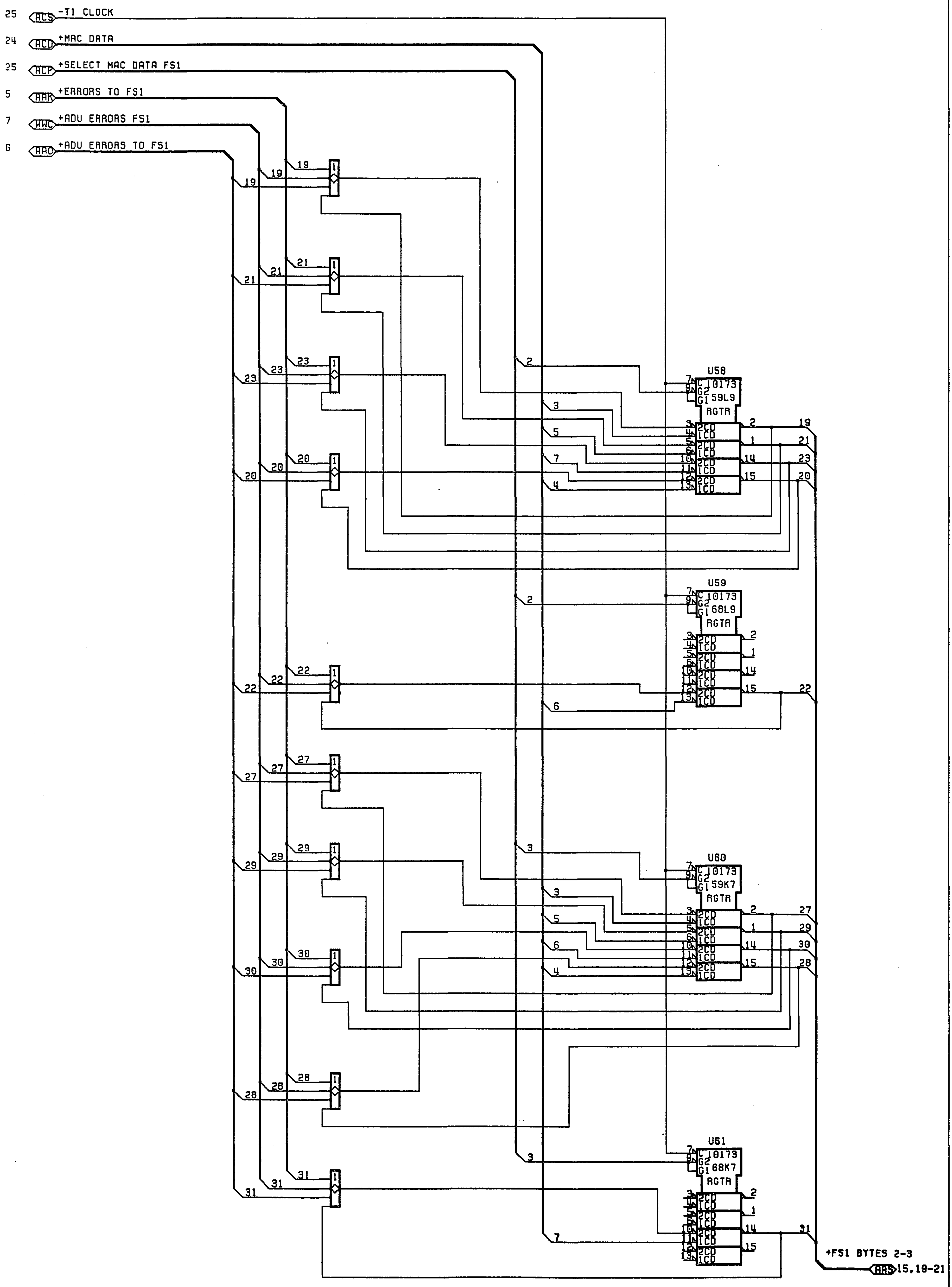
B	DWG NO. 53575510	DATE 11/01/85	REV A
SHEET NO. 8	60462210	PAGE J5-08	

FS1 BYTES 0-1



	MAINTENANCE REGISTER A FS1 BYTES 0-1 TYPE 1JSH	B	DWG NO. 53575516	DATE 11/01/85	REV A
CONTROL DATA			SHEET NO. 9	60462210	PAGE JS-09

FS1 BYTES 2-3



MAINTENANCE REGISTER A
FS1 BYTES 2-3
TYPE 1JSH

CONTROL DATA

B

DWG NO. 53575518

DATE 11/01/85

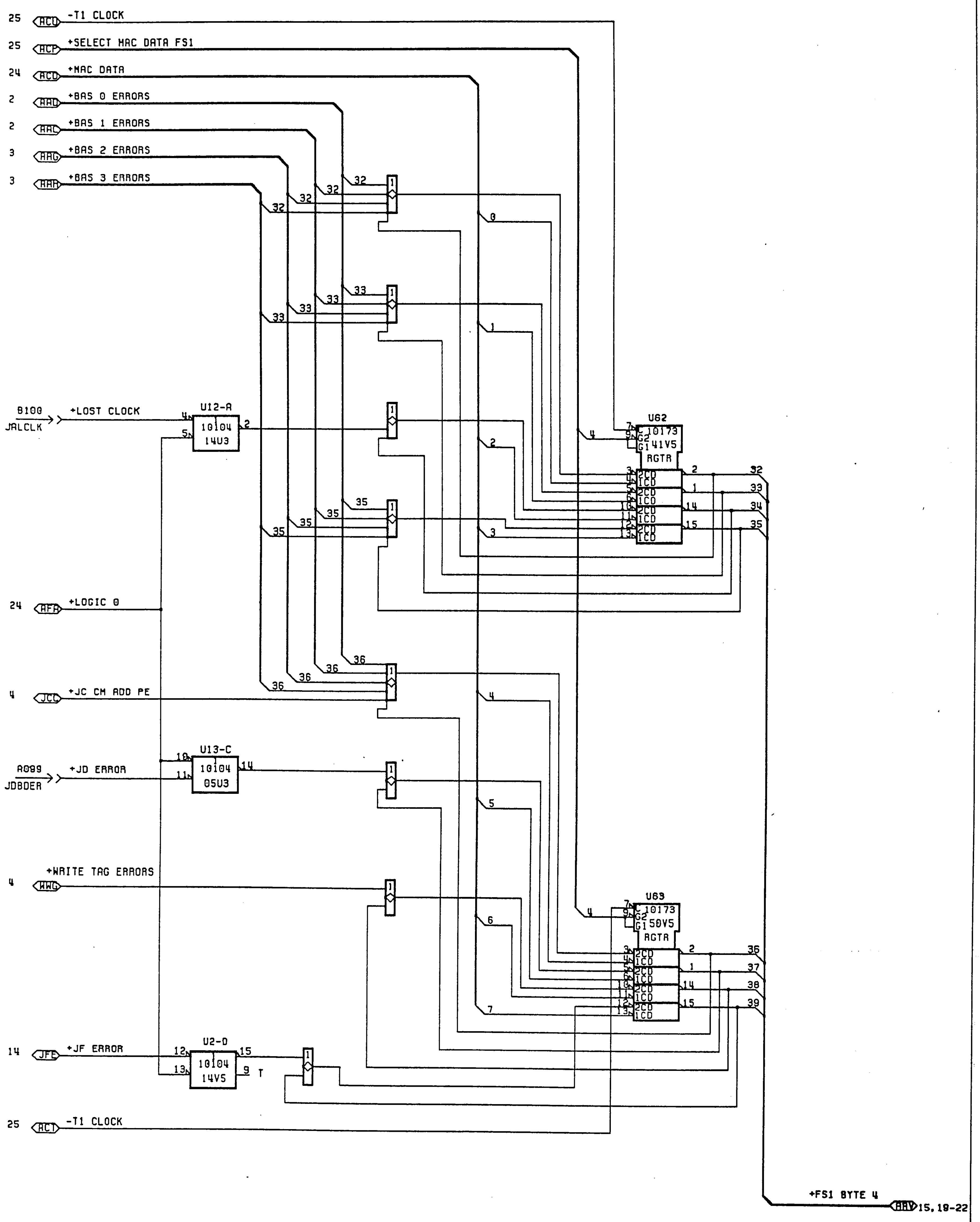
REV A

SHEET NO. 10

60462210

PAGE JS-10

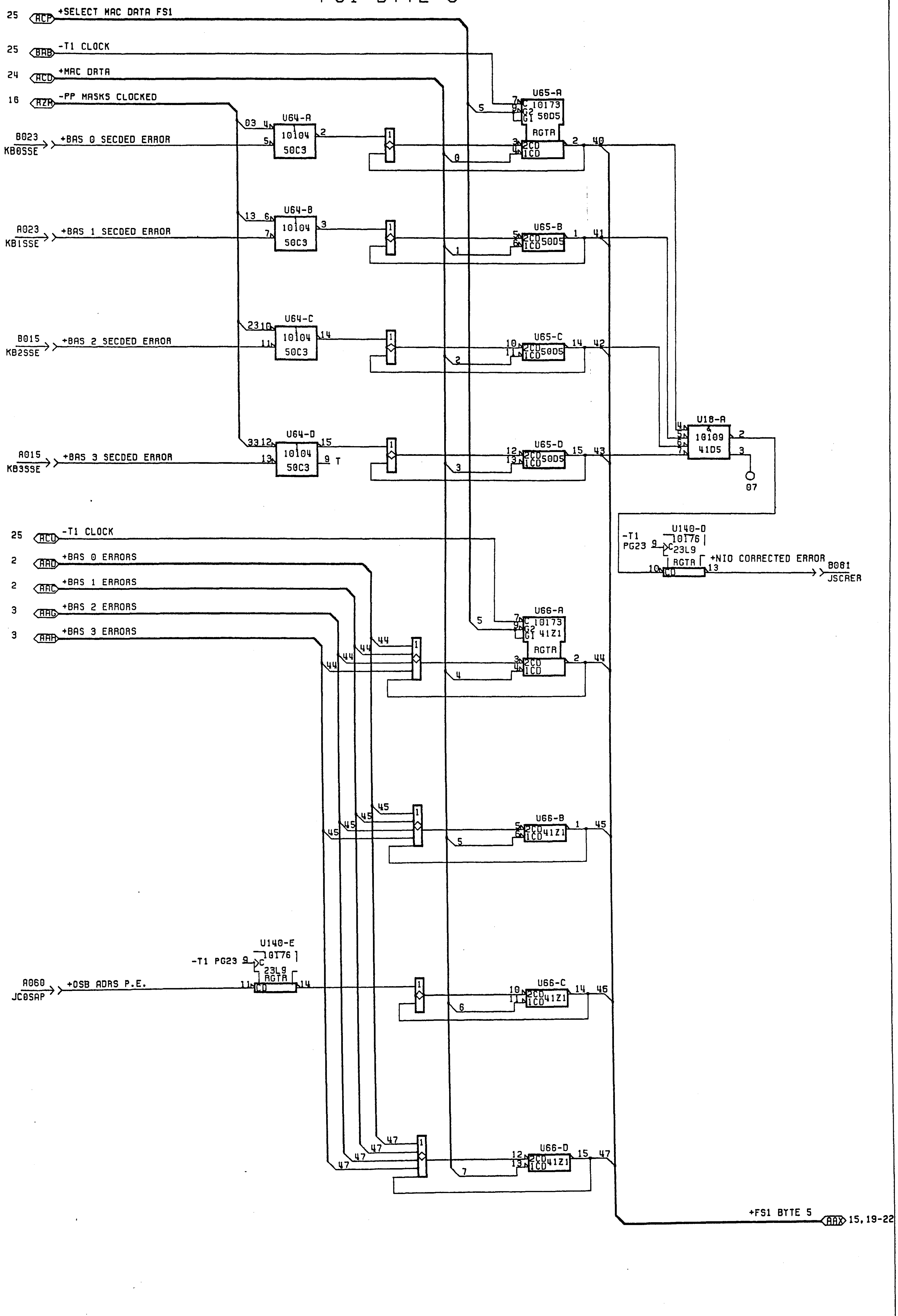
FS1 BYTE 4



CONTROL DATA

MAINTENANCE REGISTER A FS1 BYTE 4	B	DWG NO. 53575516	DATE 11/01/85	REV A
TYPE 1JSH	N	SHEET NO. 11	60462210	PAGE J9-11

FS1 BYTE 5



CONTROL DATA

MAINTENANCE REGISTER A
FS1 BYTE 5

TYPE 1JSH

B

DWG NO. 53575516

DATE 04/09/86

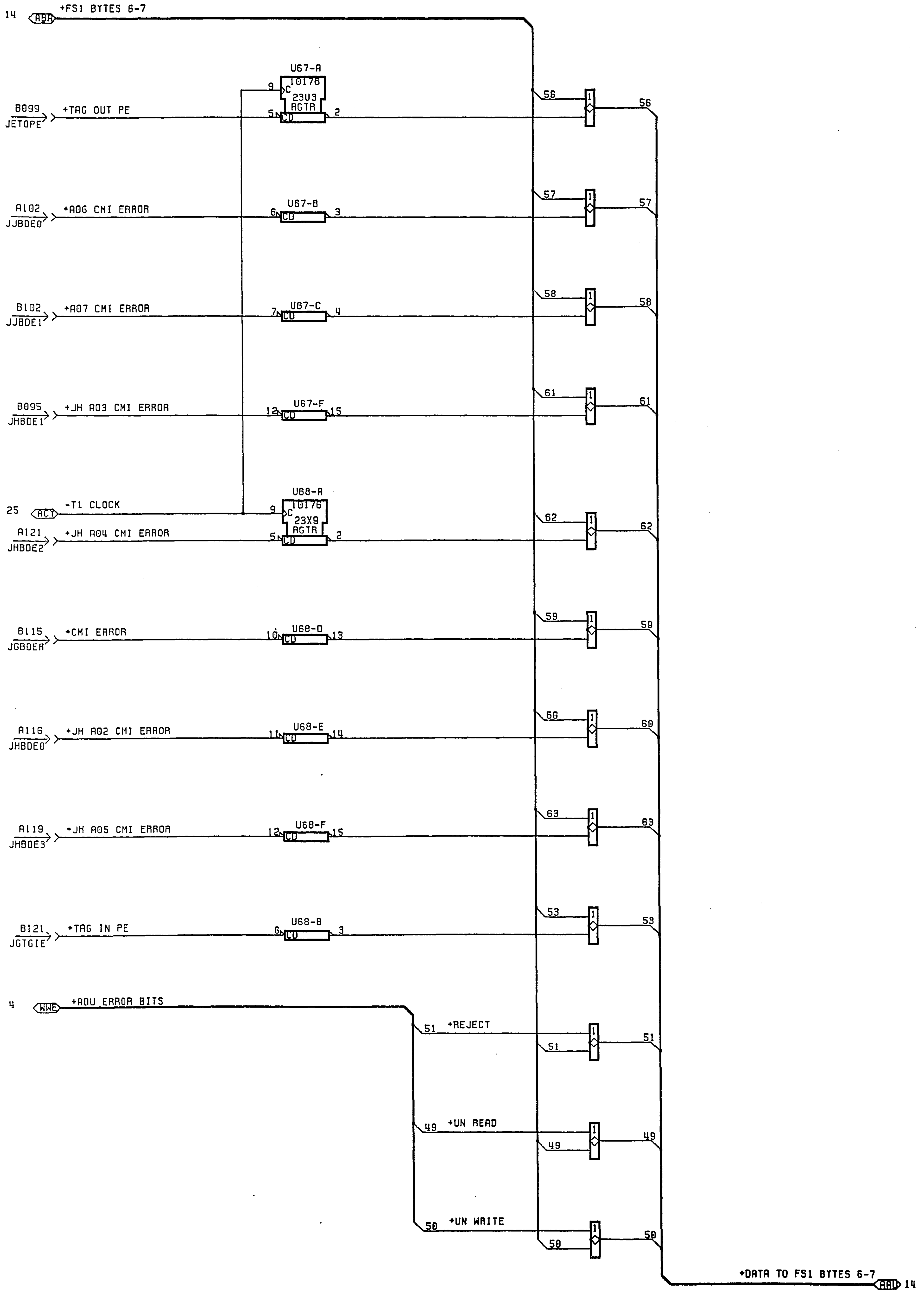
REV A

SHEET NO. 12

60462210

PAGE JS-12

ERROR REPORTING BYTES 6,7

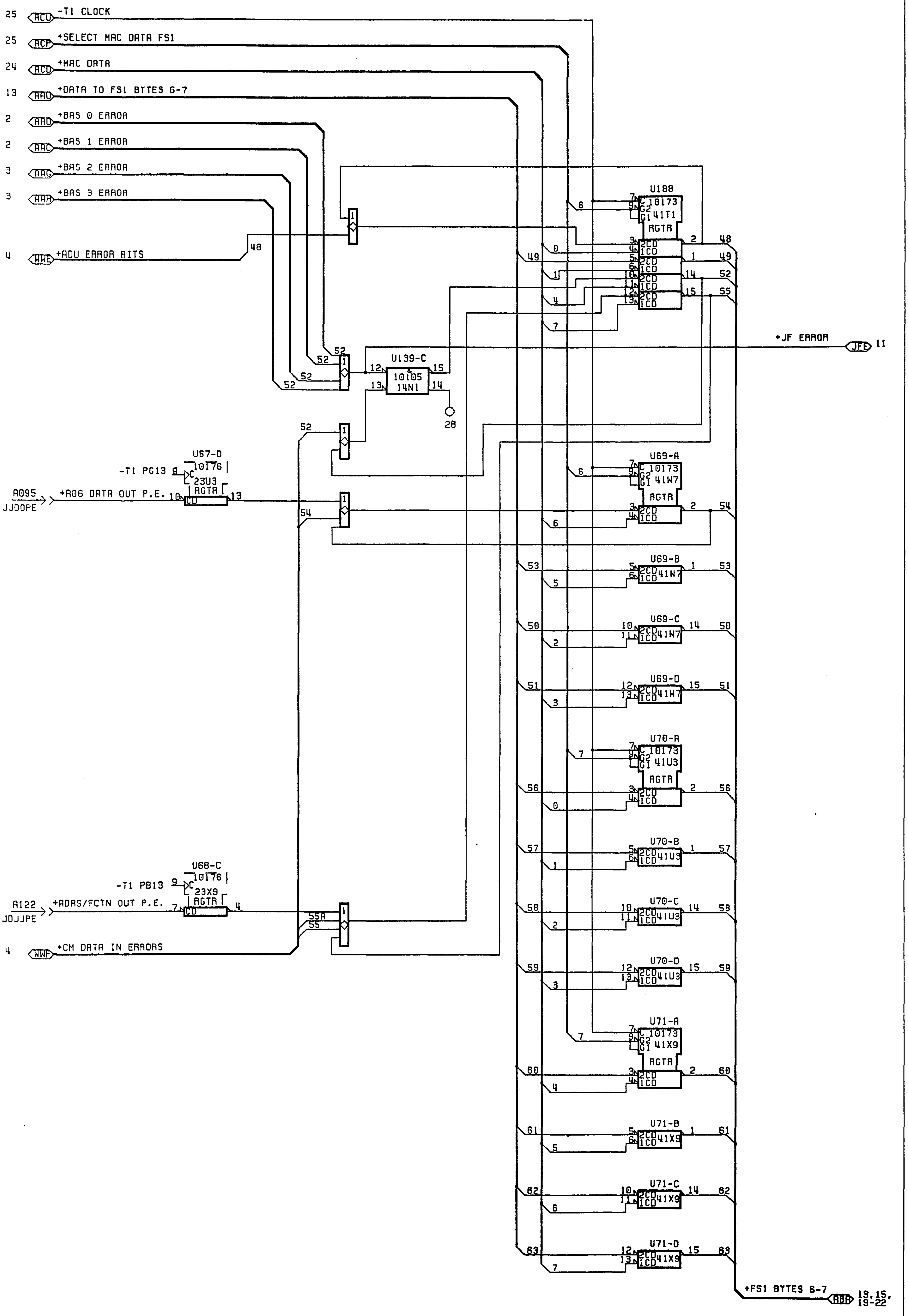


CONTROL DATA

MAINTENANCE REGISTER A
ERROR REPORTING BYTES 6,7
TYPE 1JSH

B	DWG NO. 53575516		DATE 11/01/85	REV A
SHEET NO. 13	60462210		PAGE JS-13	

FS1 BYTES 6-7

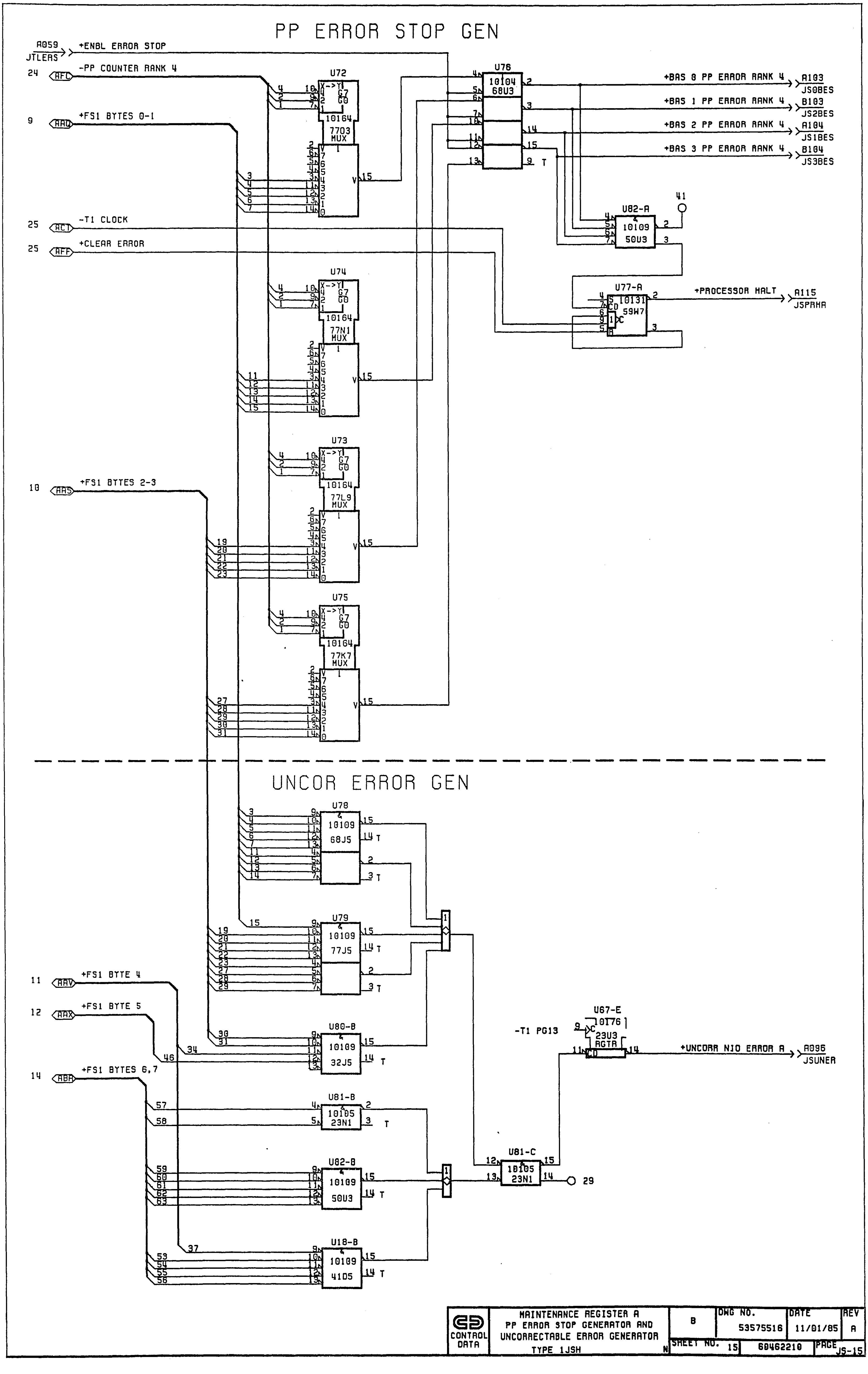


CONTROL DATA

MAINTENANCE REGISTER A
FS1 BYTES 6-7

TYPE 1JSH

B	DWG NO. 53575516	DATE 04/09/86	REV A
SHEET NO. 14	60462210	PAGE JS-14	



CONTROL DATA

MAINTENANCE REGISTER A
PP ERROR STOP GENERATOR AND
UNCORRECTABLE ERROR GENERATOR
TYPE 1JSH

B

DWG NO. 53575516

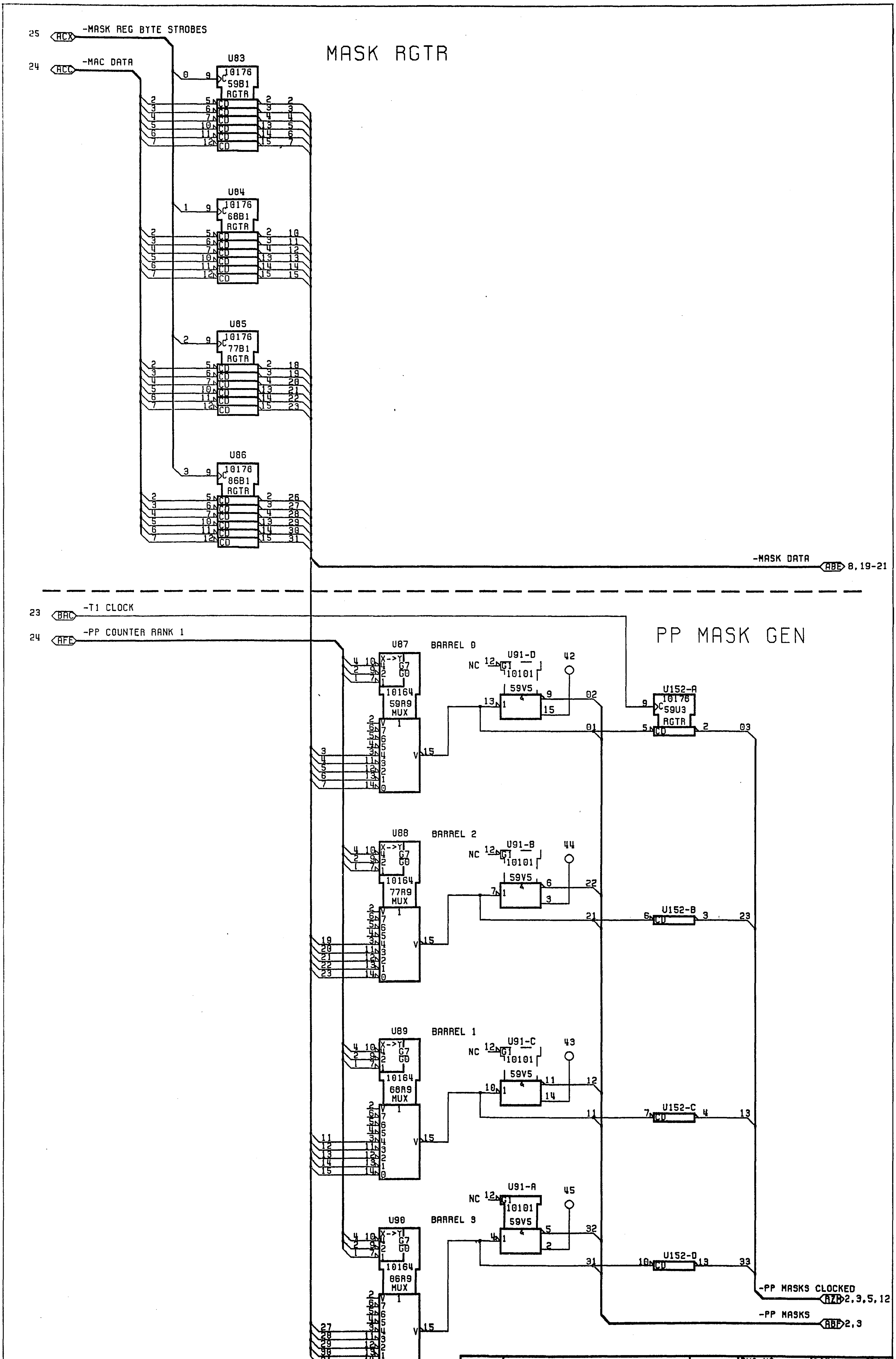
DATE 11/01/85

REV A

SHEET NO. 15

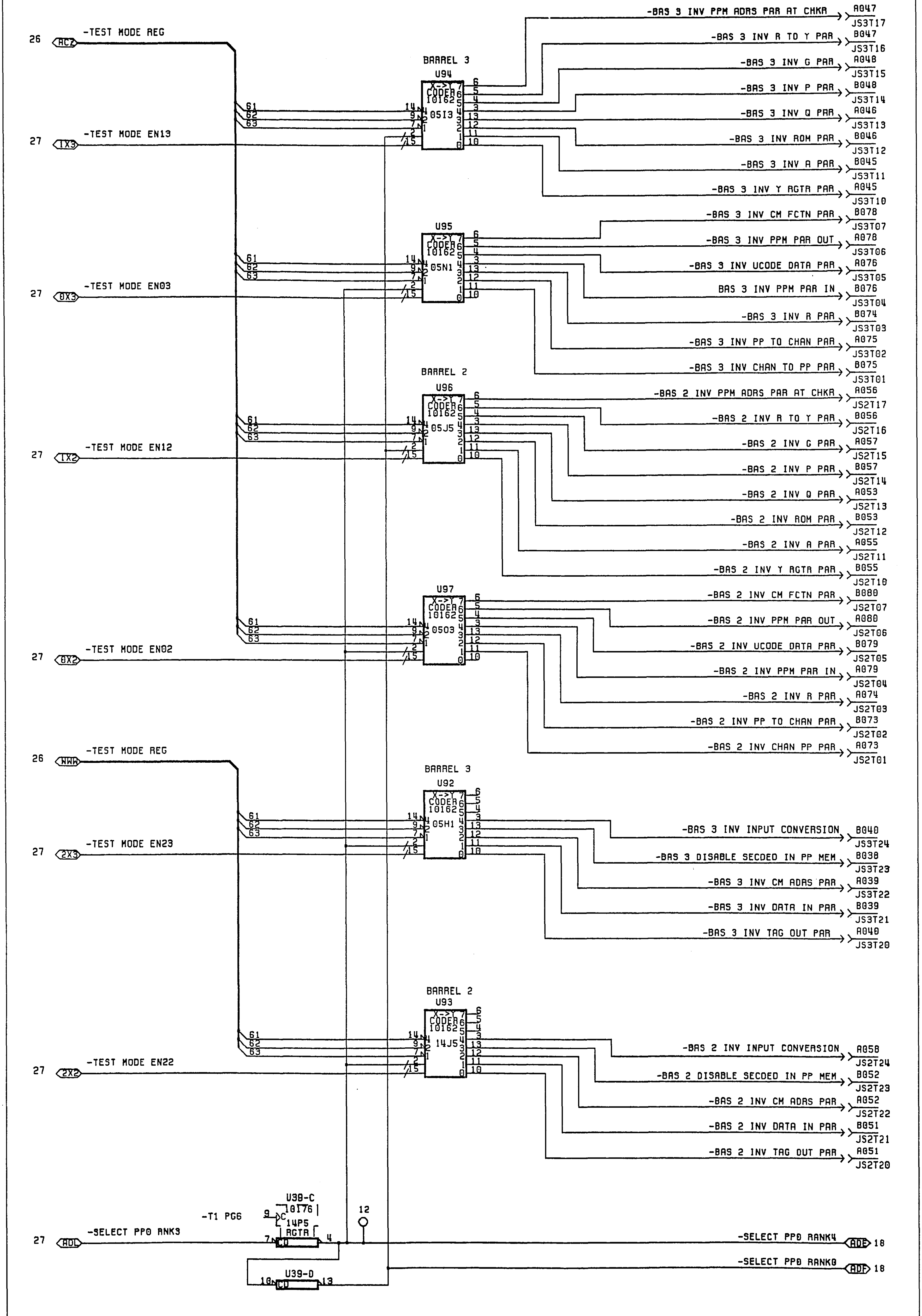
60462210

PAGE JS-15



CONTROL DATA	MAINTENANCE REGISTER A MASK REGISTER PP MASK GENERATOR TYPE 1JSH	B	DWG NO. 53575516	DATE 11/01/85	REV A
		N	SHEET NO. 16	60462210	PAGE J9-16

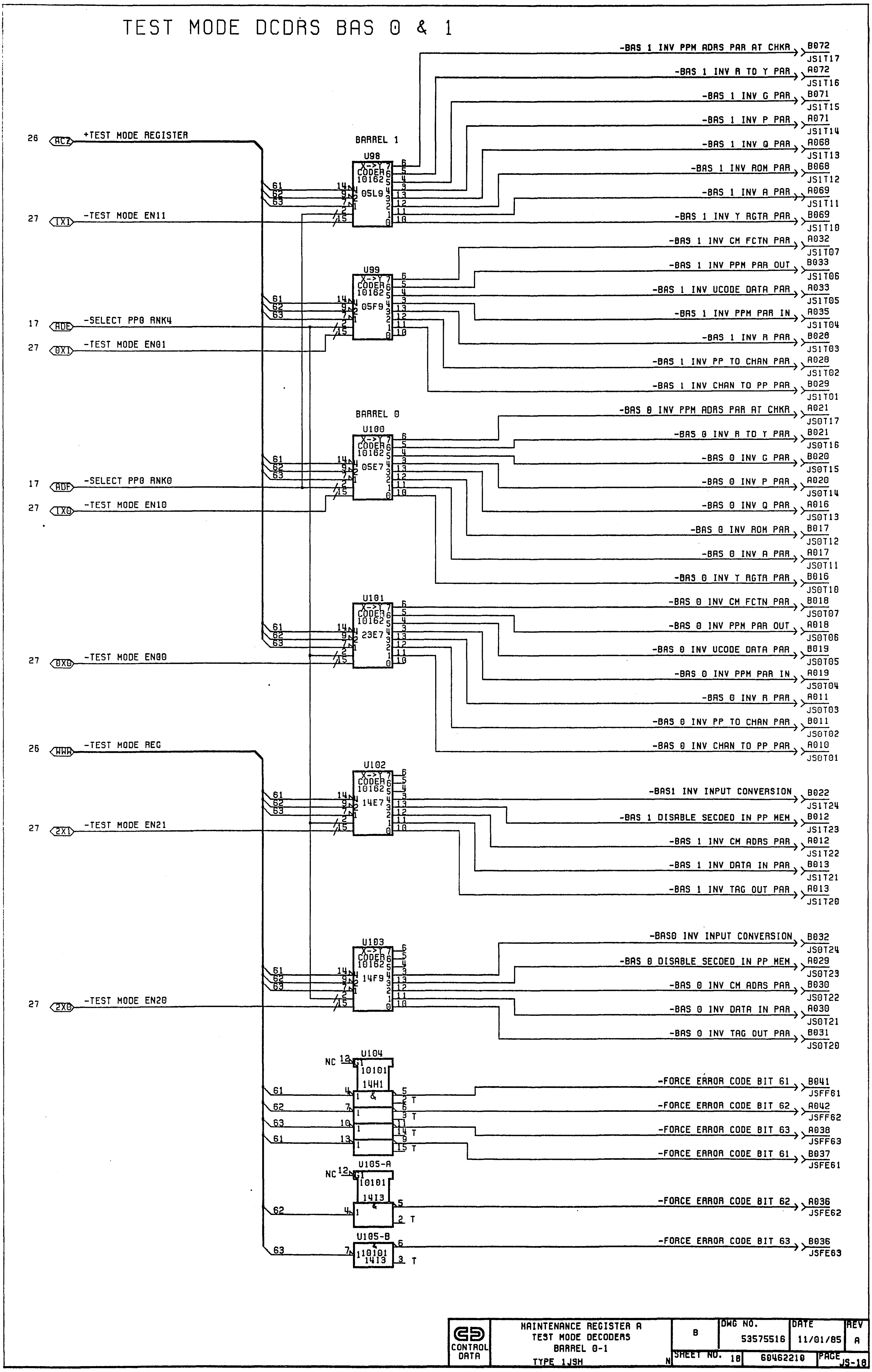
TEST MODE DCDRS BAS 2 & 3

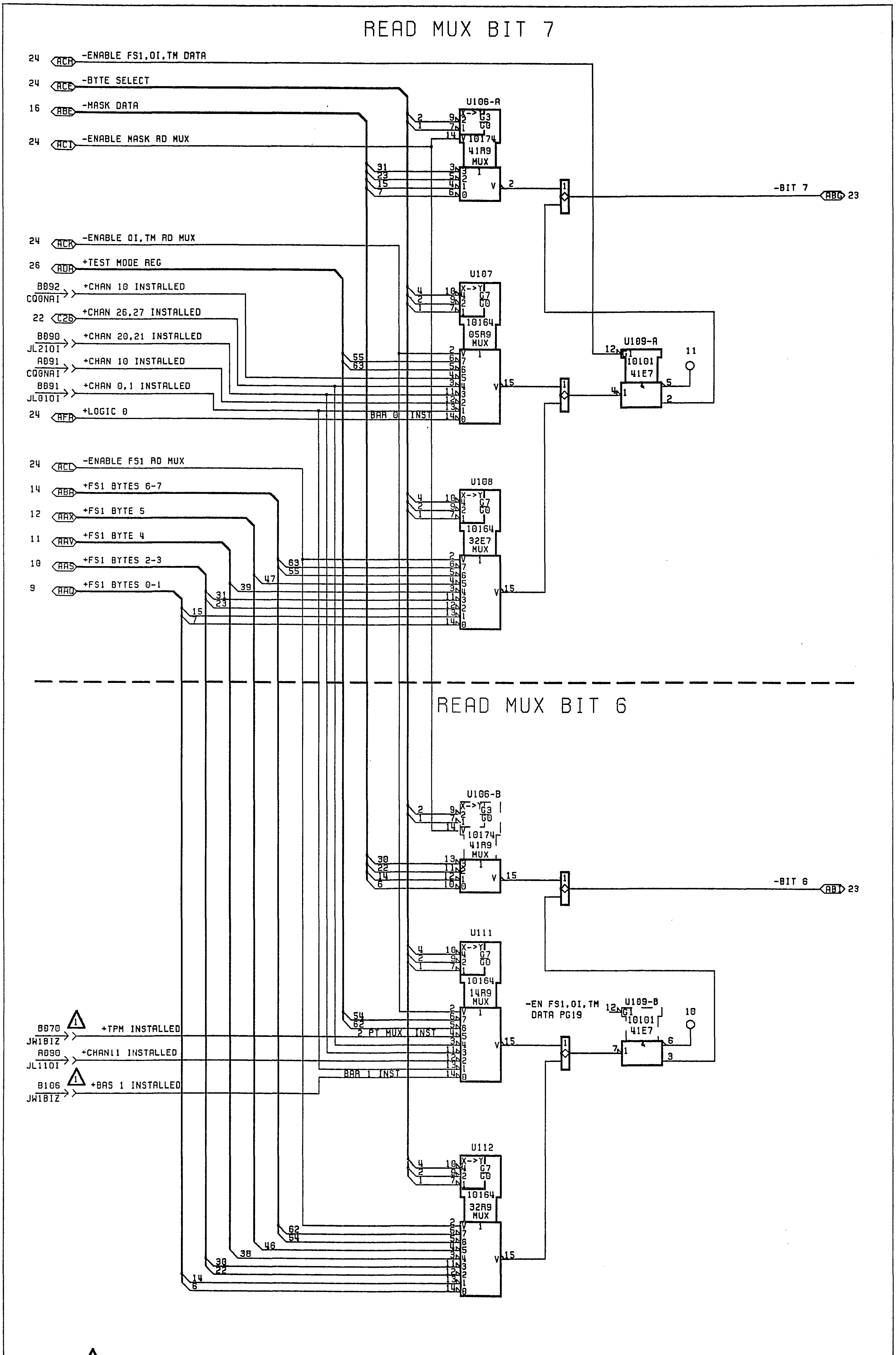

26 AC2 -TEST MODE REG
27 IX3 -TEST MODE EN13
27 0X3 -TEST MODE EN03
27 IX2 -TEST MODE EN12
27 0X2 -TEST MODE EN02
26 NWR -TEST MODE REG
27 2X3 -TEST MODE EN23
27 2X2 -TEST MODE EN22
27 ADL -SELECT PP0 RNK3
BARREL 3
U94
X->Y
CODER
10162
05I3
U95
05N1
BARREL 2
U96
05J5
U97
0503
BARREL 3
U92
05H1
BARREL 2
U93
14J5
61
62
63
-BAS 3 INV PPM ADRS PAR AT CHKR A047 JS3T17
-BAS 3 INV A TO Y PAR B047 JS3T16
-BAS 3 INV G PAR A048 JS3T15
-BAS 3 INV P PAR B048 JS3T14
-BAS 3 INV Q PAR A046 JS3T13
-BAS 3 INV ROM PAR B046 JS3T12
-BAS 3 INV A PAR B045 JS3T11
-BAS 3 INV Y RGTR PAR A045 JS3T10
-BAS 3 INV CM FCTN PAR B078 JS3T07
-BAS 3 INV PPM PAR OUT A078 JS3T06
-BAS 3 INV UCODE DATA PAR A076 JS3T05
BAS 3 INV PPM PAR IN B076 JS3T04
-BAS 3 INV R PAR B074 JS3T03
-BAS 3 INV PP TO CHAN PAR A075 JS3T02
-BAS 3 INV CHAN TO PP PAR B075 JS3T01
-BAS 2 INV PPM ADRS PAR AT CHKR A056 JS2T17
-BAS 2 INV A TO Y PAR B056 JS2T16
-BAS 2 INV G PAR A057 JS2T15
-BAS 2 INV P PAR B057 JS2T14
-BAS 2 INV Q PAR A053 JS2T13
-BAS 2 INV ROM PAR B053 JS2T12
-BAS 2 INV A PAR A055 JS2T11
-BAS 2 INV Y RGTR PAR B055 JS2T10
-BAS 2 INV CM FCTN PAR B080 JS2T07
-BAS 2 INV PPM PAR OUT A080 JS2T06
-BAS 2 INV UCODE DATA PAR B079 JS2T05
-BAS 2 INV PPM PAR IN A079 JS2T04
-BAS 2 INV R PAR A074 JS2T03
-BAS 2 INV PP TO CHAN PAR B073 JS2T02
-BAS 2 INV CHAN PP PAR A073 JS2T01
-BAS 3 INV INPUT CONVERSION B040 JS3T24
-BAS 3 DISABLE SECDED IN PP MEM B038 JS3T23
-BAS 3 INV CM ADRS PAR A039 JS3T22
-BAS 3 INV DATA IN PAR B039 JS3T21
-BAS 3 INV TAG OUT PAR A040 JS3T20
-BAS 2 INV INPUT CONVERSION A058 JS2T24
-BAS 2 DISABLE SECDED IN PP MEM B052 JS2T23
-BAS 2 INV CM ADRS PAR A052 JS2T22
-BAS 2 INV DATA IN PAR B051 JS2T21
-BAS 2 INV TAG OUT PAR A051 JS2T20
U38-C
10176
14P5
RGTR
-T1 PG6
12
U39-D
CD
-SELECT PP0 RANK4 ADE 18
-SELECT PP0 RANK0 ADF 18

CONTROL DATA

MAINTENANCE REGISTER A
TEST MODE DECODERS
BARREL 2-3
TYPE 1JSH

B	DWG NO. 53575516	DATE 11/01/85	REV A
SHEET NO. 17	60462210	PAGE JS-17	

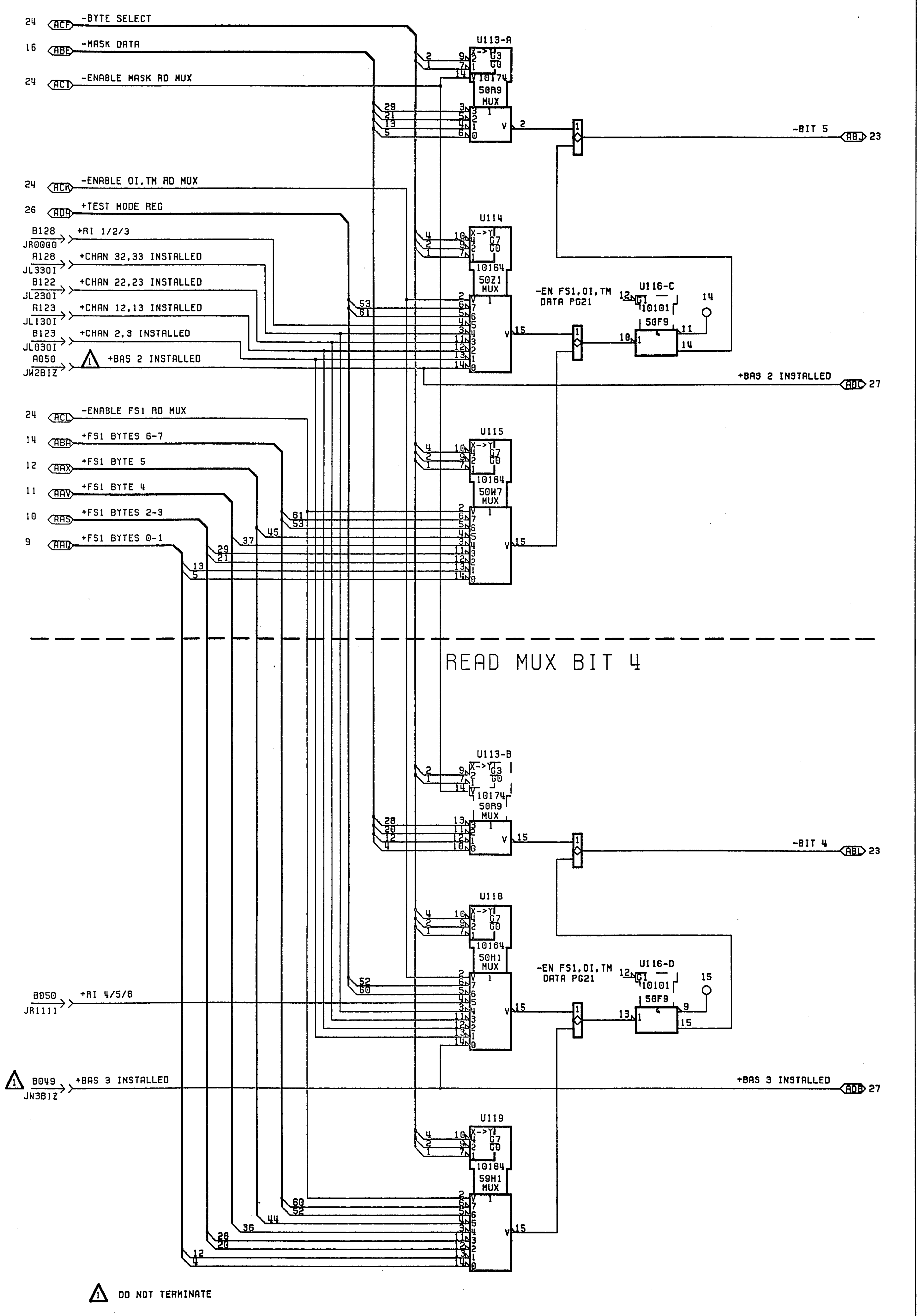
TEST MODE DCDRS BAS 0 & 1
26 AC2 +TEST MODE REGISTER
27 1X1 -TEST MODE EN11
17 ADE -SELECT PP0 RNK4
27 0X1 -TEST MODE EN01
17 ADF -SELECT PP0 RNK0
27 1X0 -TEST MODE EN10
27 0X0 -TEST MODE EN00
26 HHA -TEST MODE REG
27 2X1 -TEST MODE EN21
27 2X0 -TEST MODE EN20
BARREL 1
U98 X->Y CODER 10162 05L9
U99 X->Y CODER 10162 05F9
BARREL 0
U100 X->Y CODER 10162 05E7
U101 X->Y CODER 10162 23E7
U102 X->Y CODER 10162 14E7
U103 X->Y CODER 10162 14F9
U104 10101 14H1
U105-A 10101 1413
U105-B 10101 1413
NC
61
62
63
-BAS 1 INV PPM ADRS PAR AT CHKR B072 JS1T17
-BAS 1 INV A TO Y PAR A072 JS1T16
-BAS 1 INV G PAR B071 JS1T15
-BAS 1 INV P PAR A071 JS1T14
-BAS 1 INV Q PAR A068 JS1T13
-BAS 1 INV ROM PAR B068 JS1T12
-BAS 1 INV A PAR A069 JS1T11
-BAS 1 INV Y RGTR PAR B069 JS1T10
-BAS 1 INV CM FCTN PAR A032 JS1T07
-BAS 1 INV PPM PAR OUT B033 JS1T06
-BAS 1 INV UCODE DATA PAR A033 JS1T05
-BAS 1 INV PPM PAR IN A035 JS1T04
-BAS 1 INV R PAR B028 JS1T03
-BAS 1 INV PP TO CHAN PAR A028 JS1T02
-BAS 1 INV CHAN TO PP PAR B029 JS1T01
-BAS 0 INV PPM ADRS PAR AT CHKR A021 JS0T17
-BAS 0 INV A TO Y PAR B021 JS0T16
-BAS 0 INV G PAR B020 JS0T15
-BAS 0 INV P PAR A020 JS0T14
-BAS 0 INV Q PAR A016 JS0T13
-BAS 0 INV ROM PAR B017 JS0T12
-BAS 0 INV A PAR A017 JS0T11
-BAS 0 INV Y RGTR PAR B016 JS0T10
-BAS 0 INV CM FCTN PAR B018 JS0T07
-BAS 0 INV PPM PAR OUT A018 JS0T06
-BAS 0 INV UCODE DATA PAR B019 JS0T05
-BAS 0 INV PPM PAR IN A019 JS0T04
-BAS 0 INV R PAR A011 JS0T03
-BAS 0 INV PP TO CHAN PAR B011 JS0T02
-BAS 0 INV CHAN TO PP PAR A010 JS0T01
-BAS1 INV INPUT CONVERSION B022 JS1T24
-BAS 1 DISABLE SECDED IN PP MEM B012 JS1T23
-BAS 1 INV CM ADRS PAR A012 JS1T22
-BAS 1 INV DATA IN PAR B013 JS1T21
-BAS 1 INV TAG OUT PAR A013 JS1T20
-BAS0 INV INPUT CONVERSION B032 JS0T24
-BAS 0 DISABLE SECDED IN PP MEM A029 JS0T23
-BAS 0 INV CM ADRS PAR B030 JS0T22
-BAS 0 INV DATA IN PAR A030 JS0T21
-BAS 0 INV TAG OUT PAR B031 JS0T20
-FORCE ERROR CODE BIT 61 B041 JSFF61
-FORCE ERROR CODE BIT 62 A042 JSFF62
-FORCE ERROR CODE BIT 63 A038 JSFF63
-FORCE ERROR CODE BIT 61 B037 JSFE61
-FORCE ERROR CODE BIT 62 A036 JSFE62
-FORCE ERROR CODE BIT 63 B036 JSFE63
CONTROL DATA
MAINTENANCE REGISTER A
TEST MODE DECODERS
BARREL 0-1
TYPE 1JSH
B
DWG NO. 53575516
DATE 11/01/85
REV A
SHEET NO. 18
60462210
PAGE JS-18



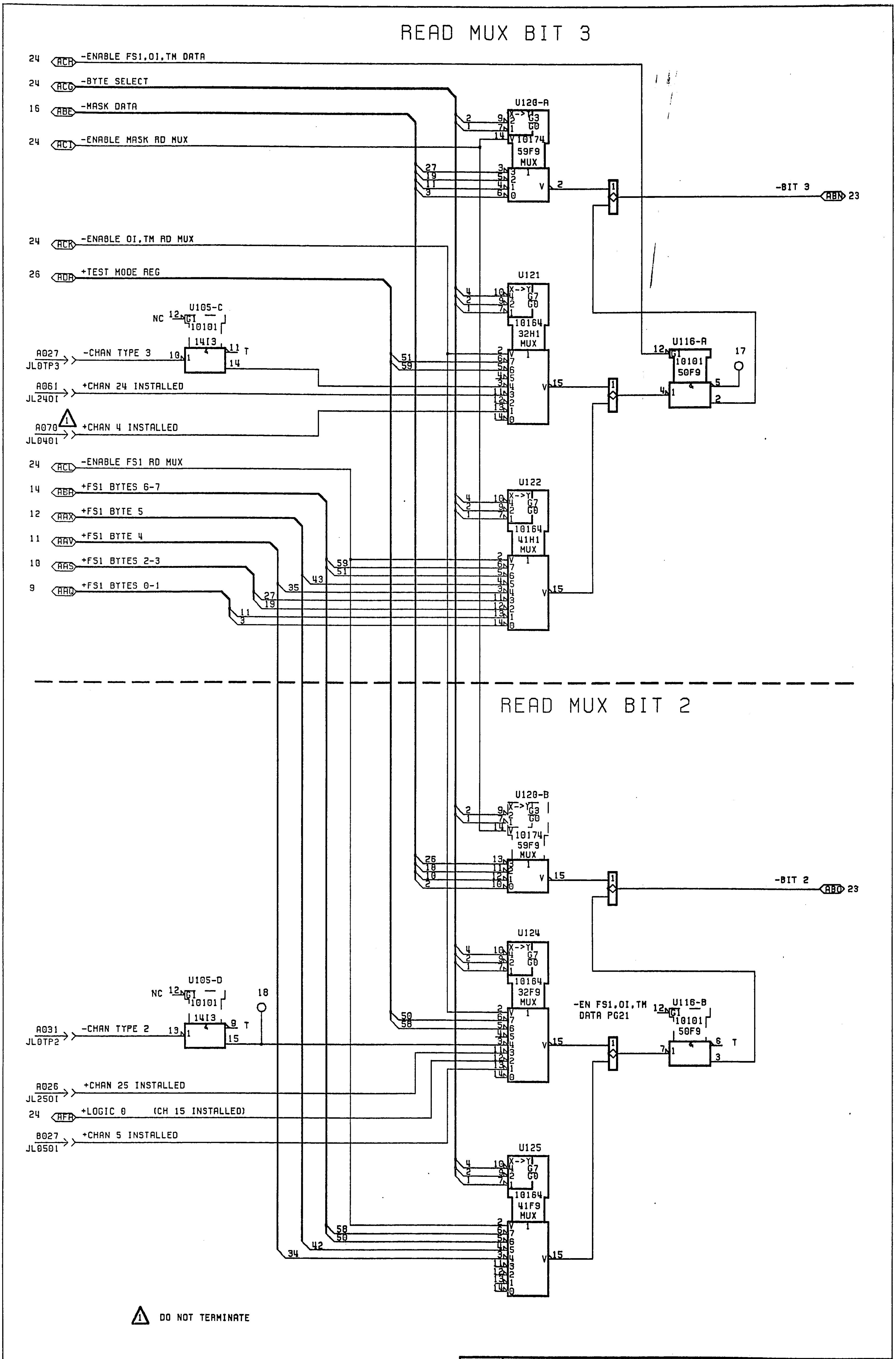
⚠1 DO NOT TERMINATE

CONTROL DATA	MAINTENANCE REGISTER A READ MUX BIT 7 READ MUX BIT 6 TYPE 1JSH	B	DWG NO. 53575516	DATE 04/09/86	REV A
			SHEET NO. 19	60462210	PAGE JS-19

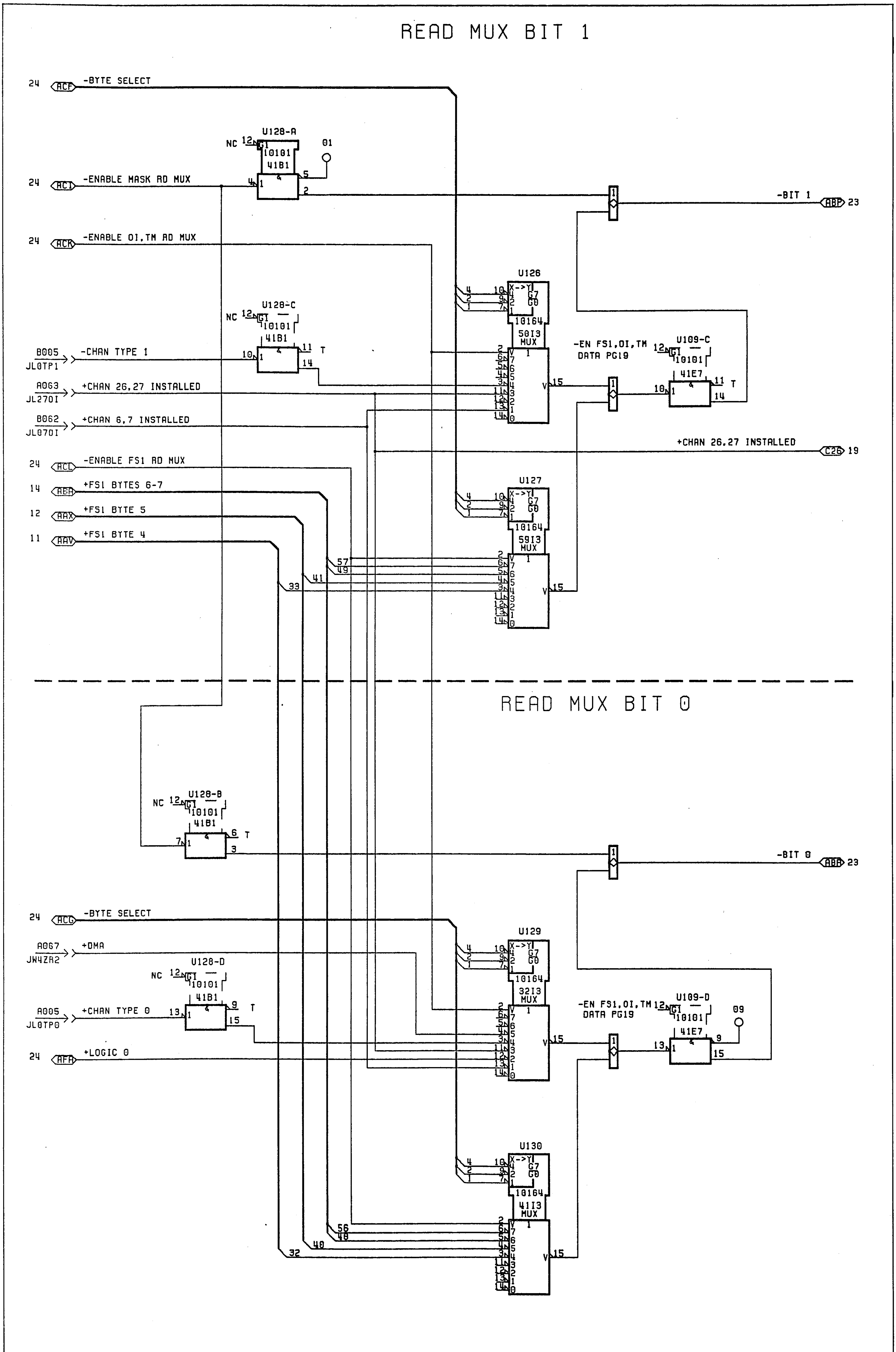
READ MUX BIT 5



CONTROL DATA	MAINTENANCE REGISTER A READ MUX BIT 5 READ MUX BIT 4 TYPE 1JSH	B	DWG NO. 53575516	DATE 04/09/86
			SHEET NO. 28 60462210	REV A PAGE JS-28

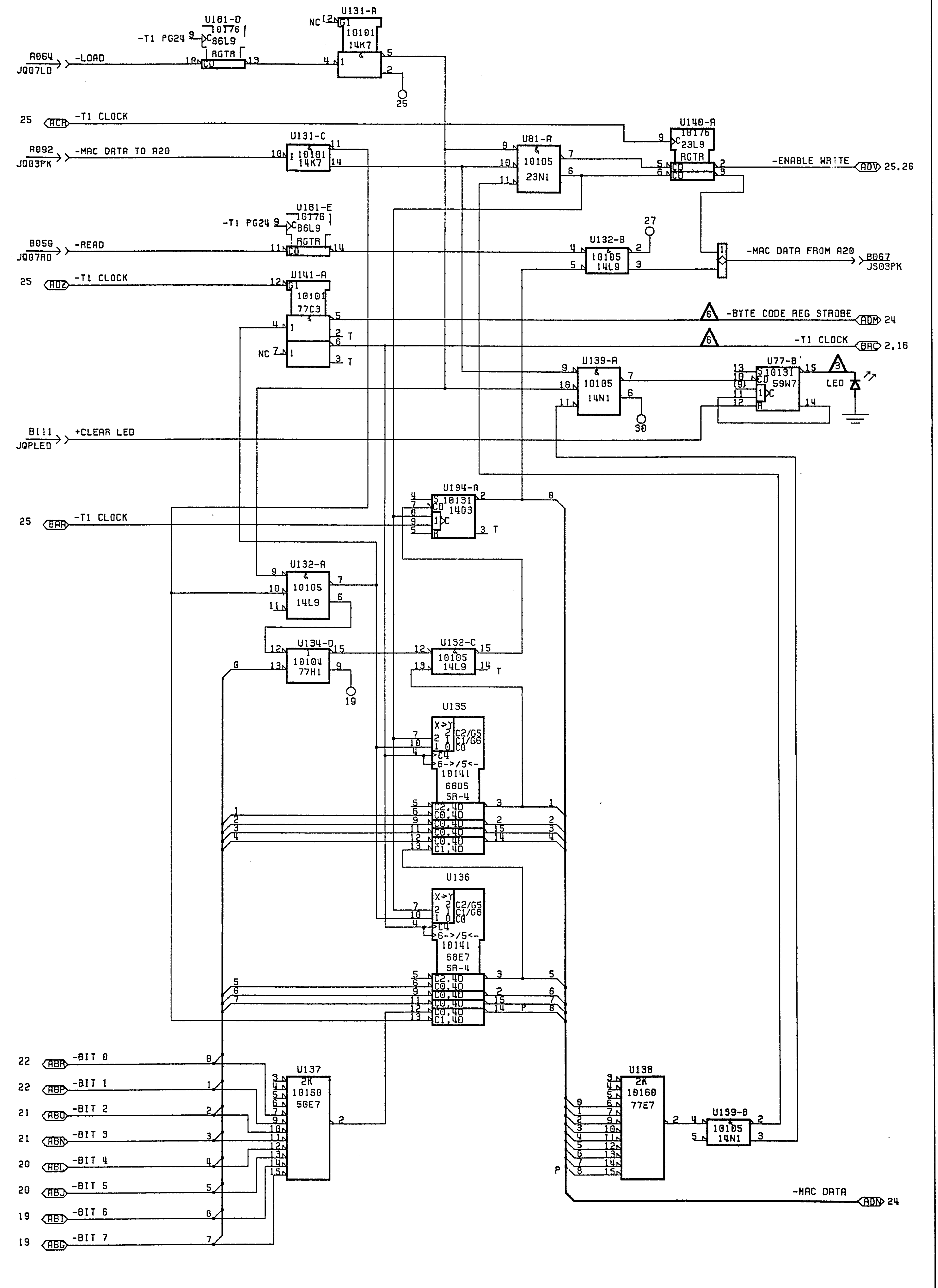


CONTROL DATA	MAINTENANCE REGISTER A READ MUX BIT 3 READ MUX BIT 2 TYPE 1JSH	B	DWG NO. 53575516	DATE 11/01/85	REV A
		N	SHEET NO. 21	60462210	PAGE JS-21



CONTROL DATA	MAINTENANCE REGISTER A READ MUX BIT 1 READ MUX BIT 0 TYPE 1JSH	B	DWG NO. 53575516	DATE 04/09/86	REV A
		SHEET NO. 22	60462210	PAGE JS-22	

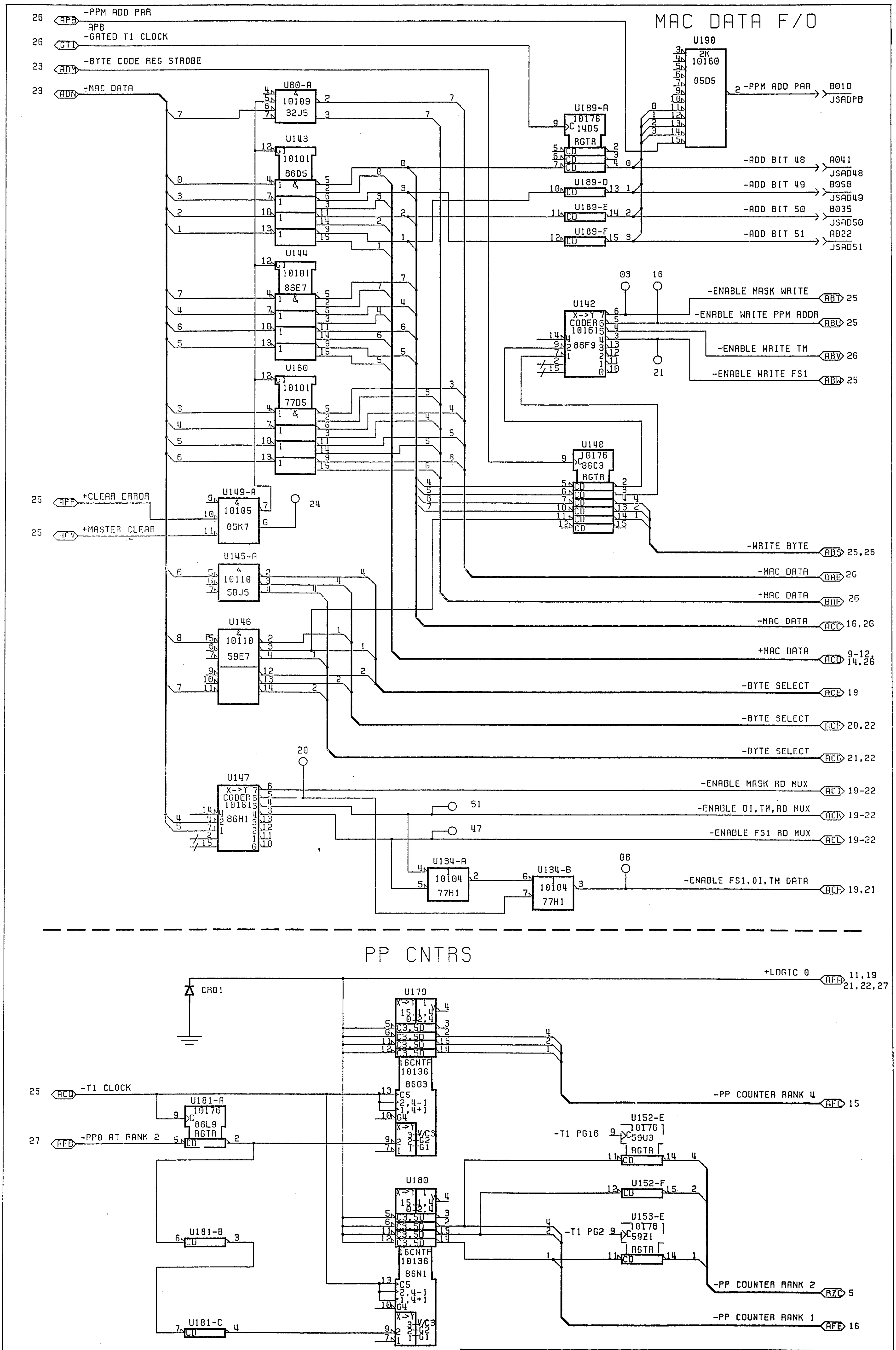
MAC INTERFACE



3 TERMINATE

6 12 INCH MAXIMUN LENGTH

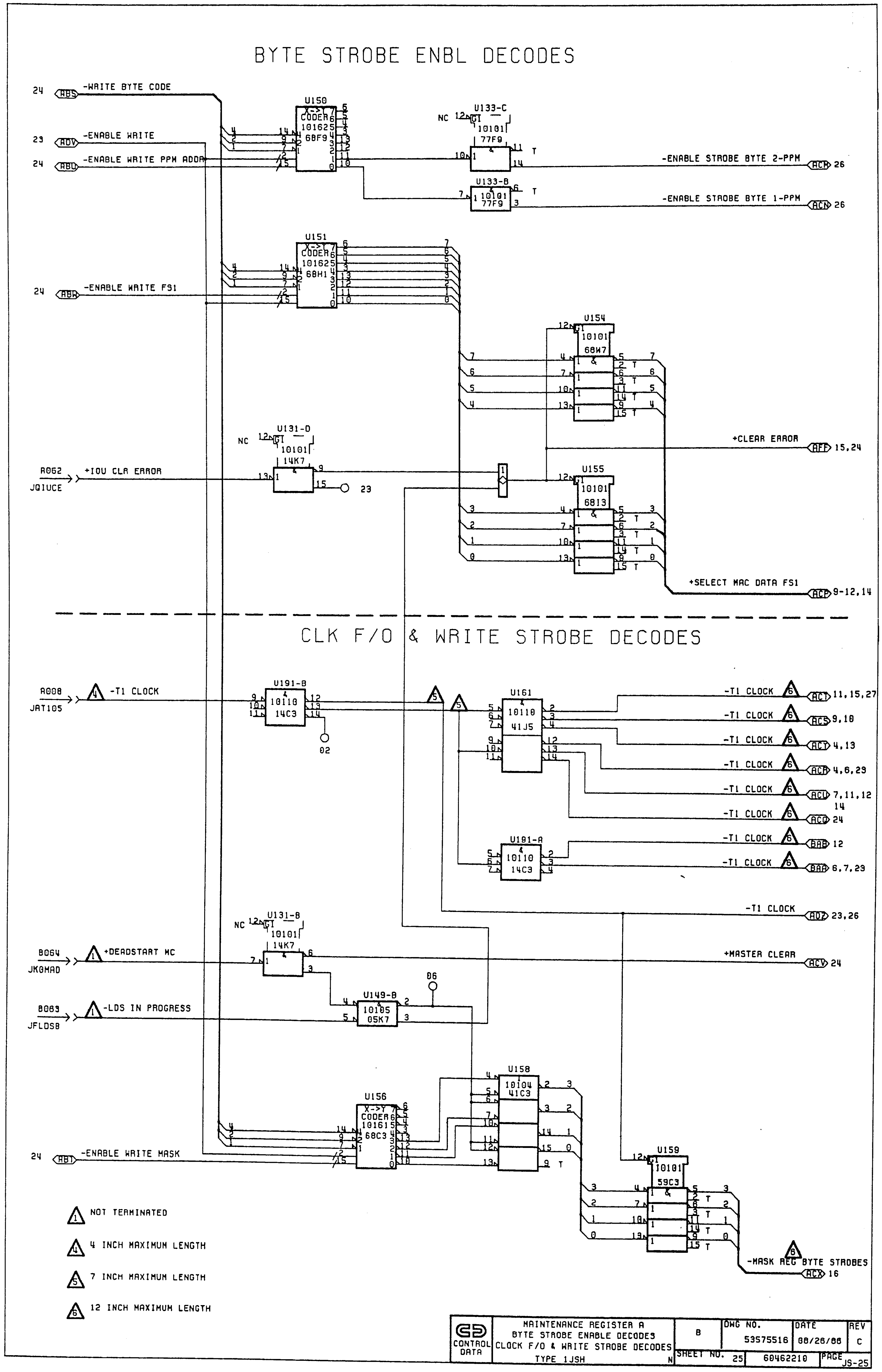
CONTROL DATA	MAINTENANCE REGISTER A MAC INTERFACE TYPE 1JSH	B	DWG NO. 53575516	DATE 01/12/87	REV E
		N	SHEET NO. 23	60462210	PAGE JS-23

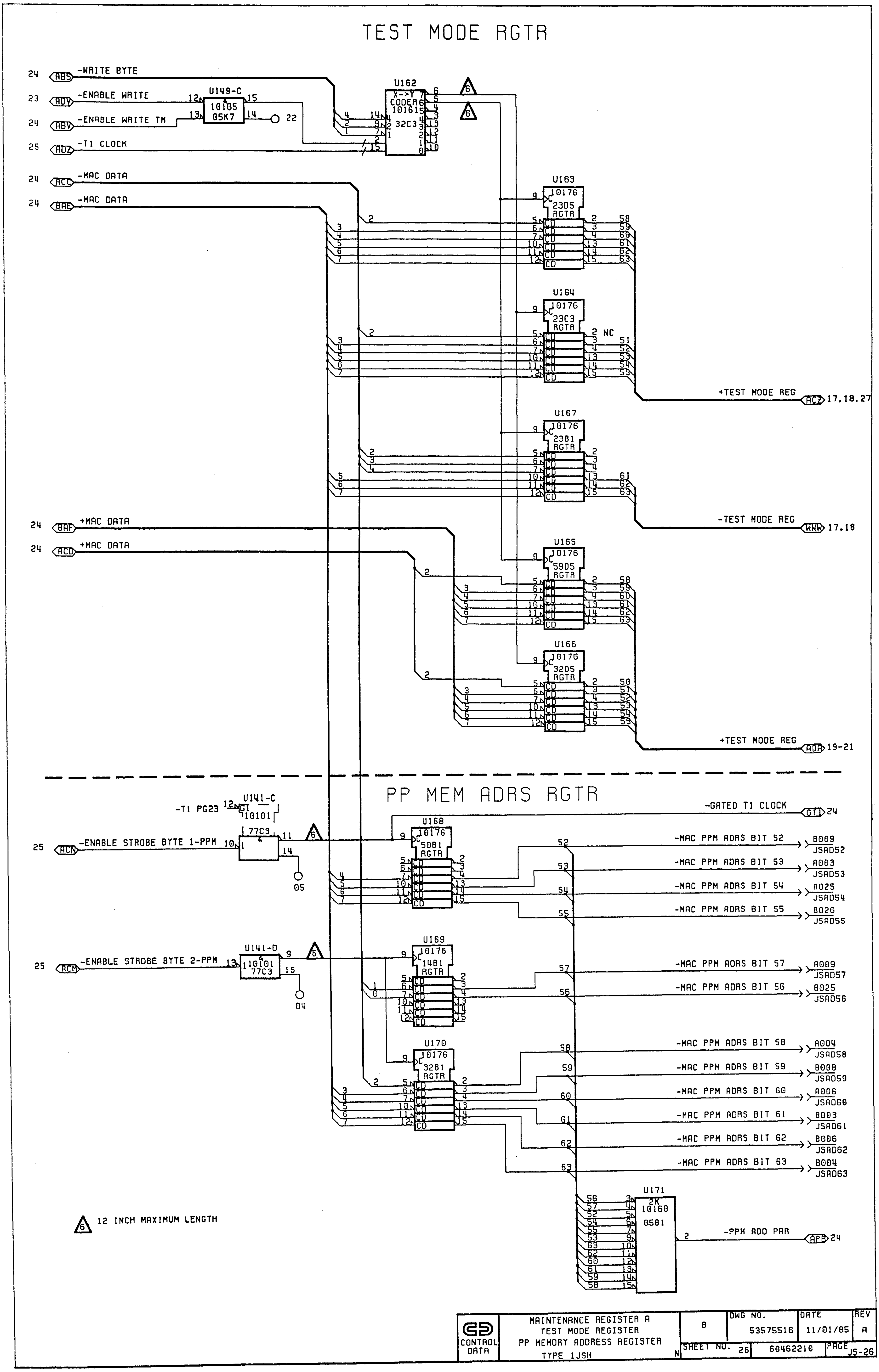


CONTROL DATA

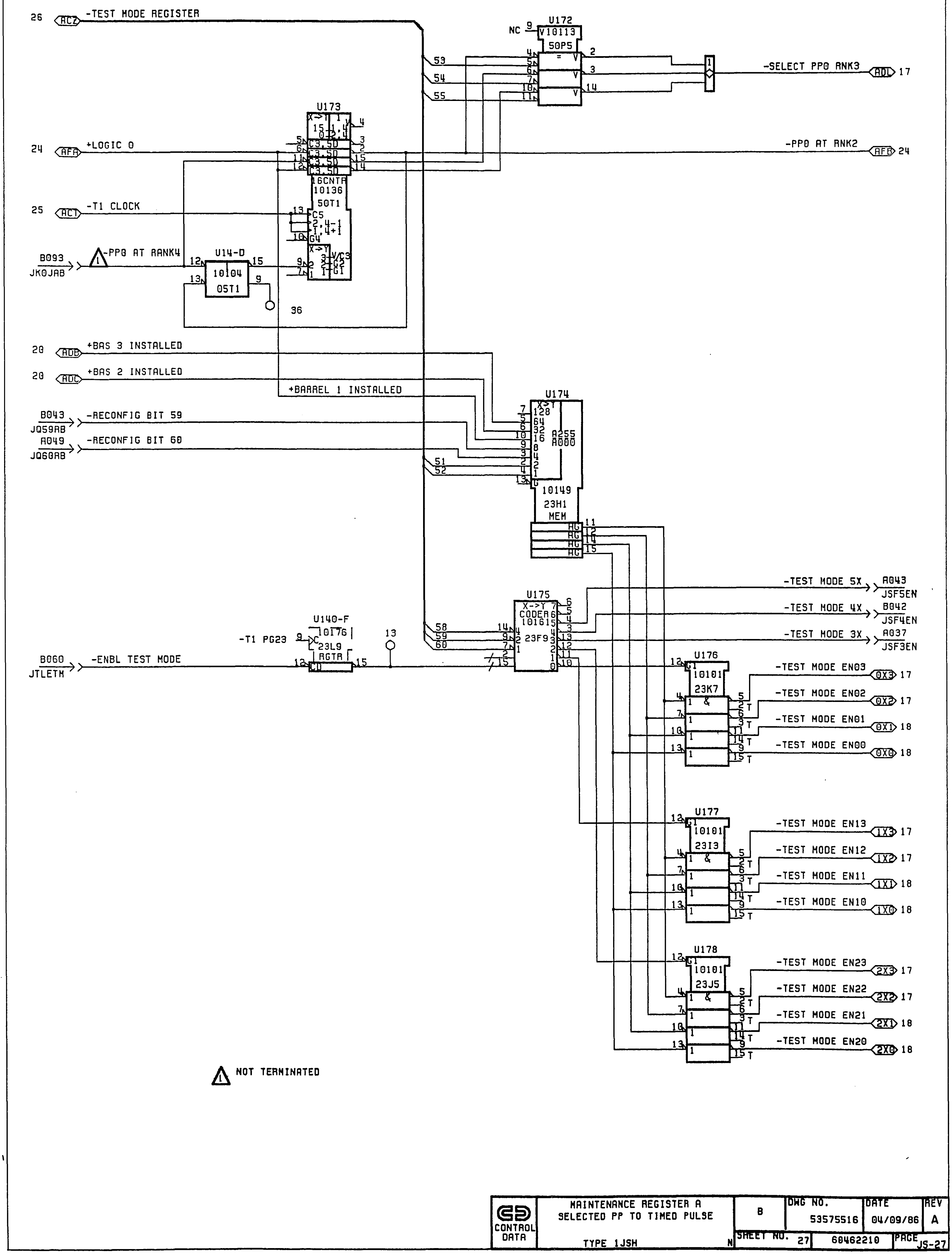
MAINTENANCE REGISTER A
MAC DATA FANOUT
PP COUNTERS
TYPE 1JSH

B
DWG NO. 53575516
DATE 04/09/86
REV B
N
SHEET NO. 24
60462210
PAGE JS-24


BYTE STROBE ENBL DECODES
24 ABS -WRITE BYTE CODE
23 ADV -ENABLE WRITE
24 ABU -ENABLE WRITE PPM ADDR
U150 X->Y CODER 101625 68F9
U133-C 10101 77F9 NC
U133-B 10101 77F9
-ENABLE STROBE BYTE 2-PPM ACM 26
-ENABLE STROBE BYTE 1-PPM ACN 26
U151 X->Y CODER 101625 68H1
24 ABR -ENABLE WRITE FS1
U154 10101 68W7
U131-D 10101 14K7 NC
A062 +IOU CLR ERROR JQ1UCE
23
+CLEAR ERROR AFF 15,24
U155 10101 6813
+SELECT MAC DATA FS1 ACP 9-12,14
CLK F/O & WRITE STROBE DECODES
A008 -T1 CLOCK JAT105
U191-B 10110 14C3
02
U161 10110 41J5
-T1 CLOCK ACT 11,15,27
-T1 CLOCK ACS 9,10
-T1 CLOCK ACT 4,13
-T1 CLOCK ACR 4,6,23
-T1 CLOCK ACU 7,11,12 14
-T1 CLOCK ACQ 24
U191-A 10110 14C3
-T1 CLOCK BAB 12
-T1 CLOCK BAA 6,7,23
-T1 CLOCK ADZ 23,26
U131-B 10101 14K7 NC
B064 +DEADSTART MC JK0MAD
+MASTER CLEAR ACV 24
06
U149-B 10105 05K7
B063 -LDS IN PROGRESS JFLDSB
U158 10104 41C3
U156 X->Y CODER 101615 68C3
24 ABT -ENABLE WRITE MASK
U159 10101 59C3
-MASK REG BYTE STROBES ACX 16
1 NOT TERMINATED
4 4 INCH MAXIMUM LENGTH
5 7 INCH MAXIMUM LENGTH
6 12 INCH MAXIMUM LENGTH
CONTROL DATA
MAINTENANCE REGISTER A
BYTE STROBE ENABLE DECODES
CLOCK F/O & WRITE STROBE DECODES
TYPE 1JSH
B
DWG NO. 53575516
DATE 08/26/86
REV C
SHEET NO. 25
60462210
PAGE JS-25


TEST MODE RGTR
24 ABS -WRITE BYTE
23 ADV -ENABLE WRITE
24 ABV -ENABLE WRITE TM
25 ADZ -T1 CLOCK
U149-C 10105 05K7
22
U162 X->Y CODER 10161 32C3
24 ACC -MAC DATA
24 BAE -MAC DATA
U163 10176 23D5 RGTR
U164 10176 23C3 RGTR
NC
+TEST MODE REG ACZ 17,18,27
U167 10176 23B1 RGTR
-TEST MODE REG WWW 17,18
24 BAF +MAC DATA
24 ACD +MAC DATA
U165 10176 59D5 RGTR
U166 10176 32D5 RGTR
+TEST MODE REG ADA 19-21
PP MEM ADRS RGTR
-T1 PG23
U141-C 10101
-GATED T1 CLOCK GT1 24
25 ACN -ENABLE STROBE BYTE 1-PPM
77C3
05
U168 10176 50B1 RGTR
-MAC PPM ADRS BIT 52 B009 JSAD52
-MAC PPM ADRS BIT 53 A003 JSAD53
-MAC PPM ADRS BIT 54 A025 JSAD54
-MAC PPM ADRS BIT 55 B026 JSAD55
25 ACM -ENABLE STROBE BYTE 2-PPM
U141-D 10101 77C3
04
U169 10176 14B1 RGTR
-MAC PPM ADRS BIT 57 A009 JSAD57
-MAC PPM ADRS BIT 56 B025 JSAD56
U170 10176 32B1 RGTR
-MAC PPM ADRS BIT 58 A004 JSAD58
-MAC PPM ADRS BIT 59 B008 JSAD59
-MAC PPM ADRS BIT 60 A006 JSAD60
-MAC PPM ADRS BIT 61 B003 JSAD61
-MAC PPM ADRS BIT 62 B006 JSAD62
-MAC PPM ADRS BIT 63 B004 JSAD63
U171 2K 10160 05B1
-PPM ADD PAR APB 24
6 12 INCH MAXIMUM LENGTH
CONTROL DATA
MAINTENANCE REGISTER A
TEST MODE REGISTER
PP MEMORY ADDRESS REGISTER
TYPE 1JSH
B
DWG NO. 53575516
DATE 11/01/85
REV A
SHEET NO. 26
60462210
PAGE JS-26

SELECTED PP TO TIMED PULSE



TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	22	-ENABLE MASK RD MUX	27	23	-READ MAC DATA
02	25	-T1 CLOCK	28	14	+CM DATA PE
03	24	-ENABLE MASK WRITE	29	15	+CORRECTABLE ERROR
04	26	+ENBL STROBE BYTE 2	30	23	+BOARD ERROR
05	26	+ENBL STROBE BYTE 1	31		
06	25	-LDS MASTER CLEAR	32		
07	12	+CORRECTABLE ERROR	33		
08	24	-ENA FS1,OI,TM DATA	34		
09	22	-READ MUX BIT 0	35		
10	19	-READ MUX BIT 6	36	27	+PP0 AT RANK 4
11	19	-READ MUX BIT 7	37	08	+MASK READ
12	17	-SELECT PP0 RANK 4	38	08	+MASK WRITE
13	27	-ENBL TEST MODE	39	06	+READ ENABLE ERROR
14	20	-READ MUX BIT 5	40	07	+WRITE ENABLE ERROR
15	20	-READ MUX BIT 4	41	15	+BAR ERR STOP RANK 4
16	24	-ENABLE WR PPM ADDR	42	16	+BARREL 0 MASK
17	21	-READ MUX BIT 3	43	16	+BARREL 1 MASK
18	21	+CHAN TYPE 2	44	16	+BARREL 2 MASK
19	23	+LD MUX BIT 0	45	16	+BARREL 3 MASK
20	24	-ENABLE MUX	46	05	+BARREL 0 ERROR
21	24	-ENABLE WRITE FS1	47	24	-ENABLE FS1 RD MUX
22	26	+ENABLE WRITE	48	05	+BARREL 2 ERROR
23	25	-IOU CLR ERROR	49	05	+BARREL 3 ERROR
24	24	-CLEAR ERROR	50	05	+BARREL 1 ERROR
25	23	+LOAD	51	24	-ENA OI,TM,RD MUX
26					

CONNECTOR PINS	
GND	A014,B014,A024,B024,A034,B034,A054,B054,A065,B065,A066,B066,A077,B077,A097,B097,A107,B107,A117,B117
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	NOT USED ON THIS PAK
TERM	NONE
UNUSED	ALL PINS ARE USED

CONTROL DATA	MAINTENANCE REGISTER A TESTPOINTS & SIGNAL NAMES AND CONNECTOR PINS TYPE 1JSH	B	DWG NO. 53575516	DATE 08/26/86	REV C
	N	SHEET NO. 28	60462210	PAGE JS-28	

CAUTION

There are two sets of logic diagrams for this board. Each set supports a different board version. The appropriate logic diagram set for your board has a board master (B/M) number that matches the printed wiring board (PWB) number of the board. The B/M number is located in the upper right corner of the diagram set cover page (sheet 1), and the PWB number is located on the back of the board.

1JSH MAINTENANCE RGTR A BOARD

REVISION HISTORY B/M 41653302

DATE	REV	DESCRIPTION OF CHANGE	INIT
03/21/86	A	CLASS A RELEASE OF LOGIC DIAGRAMS.	LHJ
08/26/86	B	ECO #47748 PAGES 23, 25, & 28.	LHJ
10/09/86	C	ECO #48326 PAGE 4.	LHJ
01/12/87	D	ECO #48330 PAGE 23	
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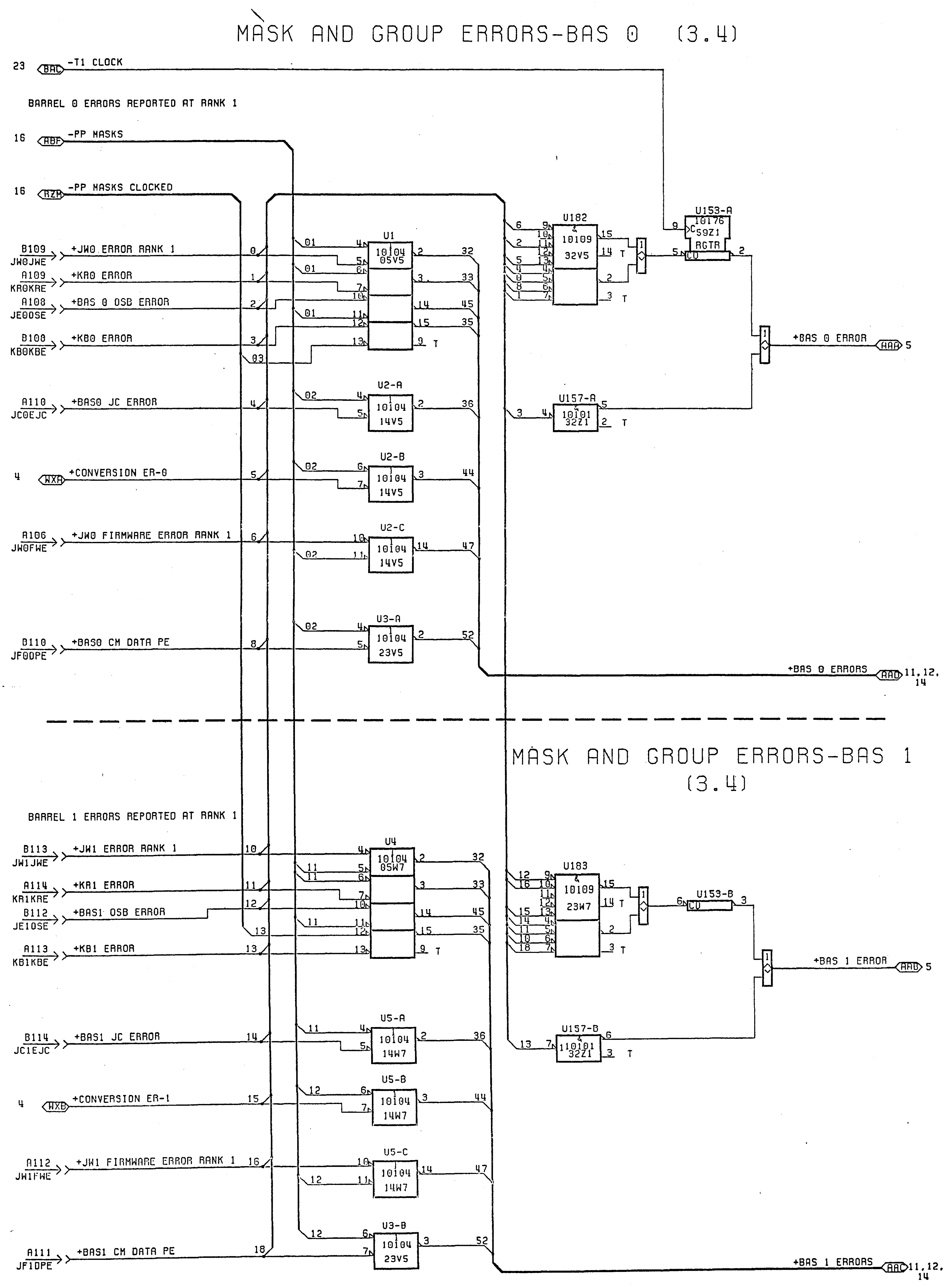
DWN	L H JOHNSON	03/21/86
CHKD	D A FORD	04/29/86
ENG	J P STROMBECK	04/23/86
PUBS	A K BONDE	04/29/86
APP	J P STROMBECK	04/23/86

NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

LOC: A20,D27

CONTROL DATA	REVISION HISTORY TYPE 1JSH	B	DWG NO. 22130333	DATE 01/12/87	REV D
		N	SHEET NO. 1	60462210	PAGE JS-01


MASK AND GROUP ERRORS-BAS 0 (3.4)
23 BAC -T1 CLOCK
BARREL 0 ERRORS REPORTED AT RANK 1
16 ABF -PP MASKS
16 AZM -PP MASKS CLOCKED
B109 JW0JWE +JW0 ERROR RANK 1
A109 KR0KRE +KR0 ERROR
A108 JE0OSE +BAS 0 OSB ERROR
B108 KB0KBE +KB0 ERROR
A110 JC0EJC +BAS0 JC ERROR
4 WXA +CONVERSION ER-0
A106 JW0FWE +JW0 FIRMWARE ERROR RANK 1
B110 JF0DPE +BAS0 CM DATA PE
U1 10104 05V5
U2-A 10104 14V5
U2-B 10104 14V5
U2-C 10104 14V5
U3-A 10104 23V5
U182 10109 32V5
U153-A 10176 59Z1 RGTR
U157-A 10101 32Z1
+BAS 0 ERROR AAA 5
+BAS 0 ERRORS AAD 11, 12, 14
MASK AND GROUP ERRORS-BAS 1 (3.4)
BARREL 1 ERRORS REPORTED AT RANK 1
B113 JW1JWE +JW1 ERROR RANK 1
A114 KR1KRE +KR1 ERROR
B112 JE1OSE +BAS1 OSB ERROR
A113 KB1KBE +KB1 ERROR
B114 JC1EJC +BAS1 JC ERROR
4 WXB +CONVERSION ER-1
A112 JW1FWE +JW1 FIRMWARE ERROR RANK 1
A111 JF1DPE +BAS1 CM DATA PE
U4 10104 05W7
U5-A 10104 14W7
U5-B 10104 14W7
U5-C 10104 14W7
U3-B 10104 23V5
U183 10109 23W7
U153-B
U157-B 10101 32Z1
+BAS 1 ERROR AAB 5
+BAS 1 ERRORS AAC 11, 12, 14

CONTROL DATA

MAINTENANCE REGISTER A
MASK AND GROUP ERRORS
BARRELS 0 & 1
TYPE 1JSH

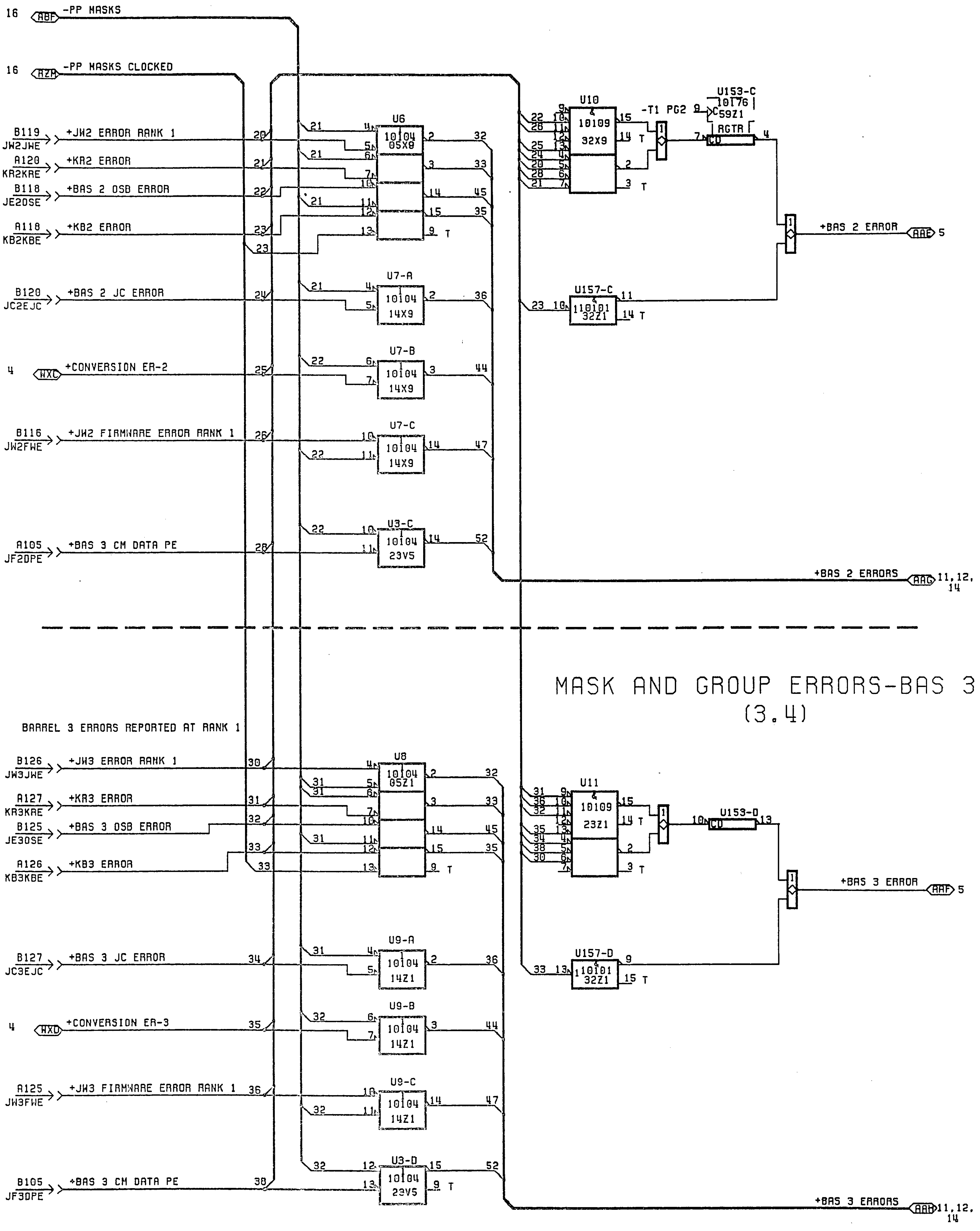
B
DWG NO. 22130333
DATE 03/21/86
REV A
N SHEET NO. 2 60462210 PAGE JS-02

MASK AND GROUP ERRORS-BAS 2 (3.4)

BARREL 2 ERRORS REPORTED AT RANK 1

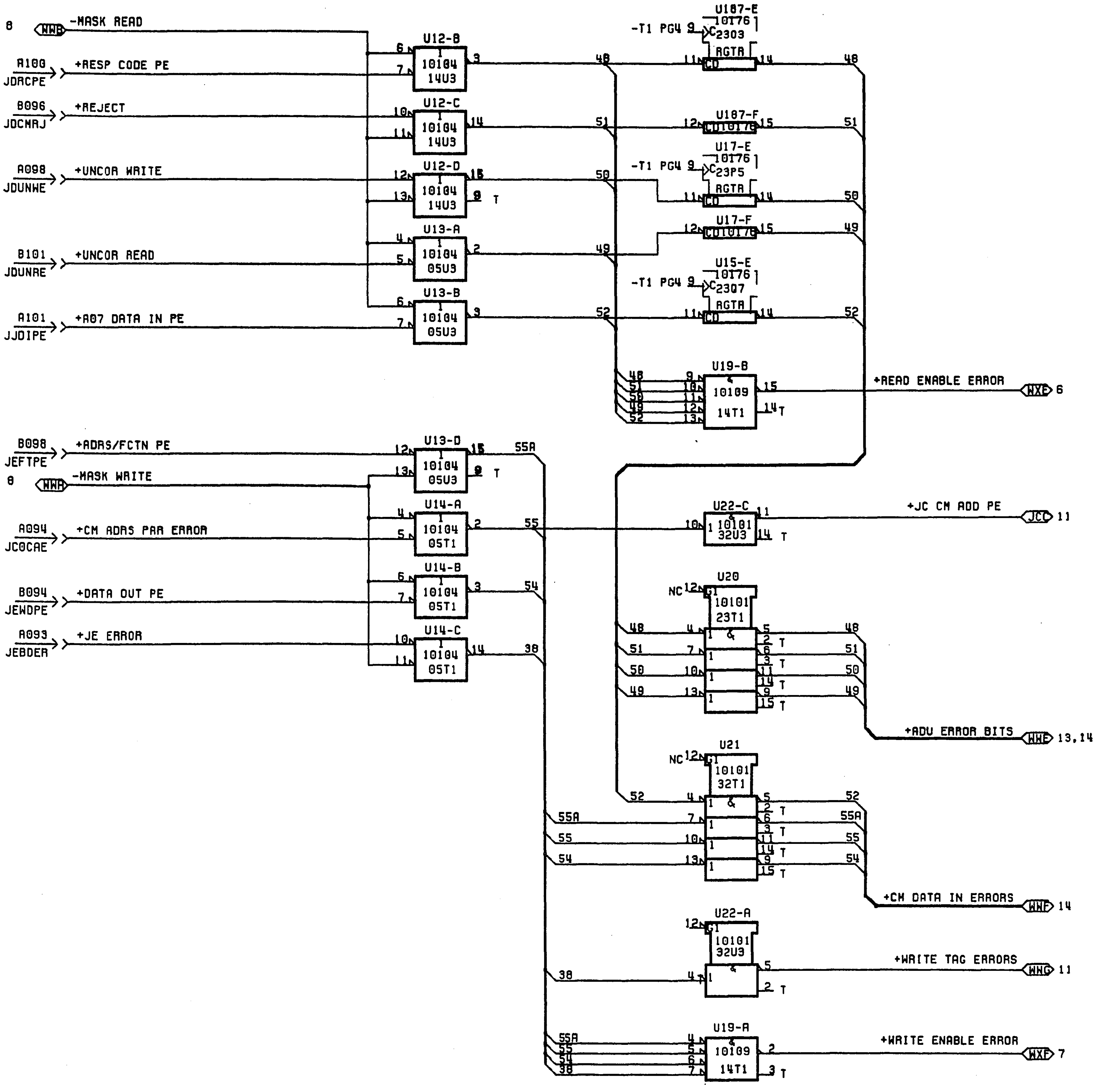
MASK AND GROUP ERRORS-BAS 3 (3.4)

BARREL 3 ERRORS REPORTED AT RANK 1

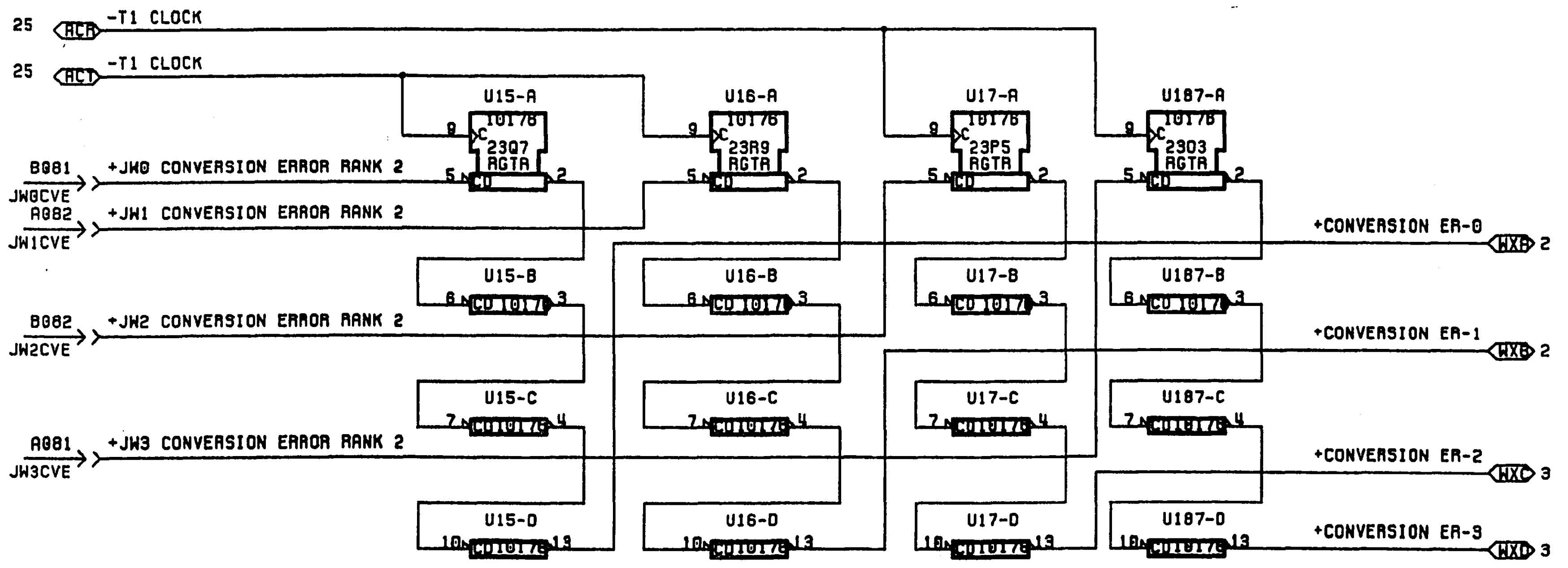


CONTROL DATA	MAINTENANCE REGISTER A MASK AND GROUP ERRORS BARRELS 2 & 3 TYPE IJSA	B	DWG NO. 22130333	DATE 03/21/86	REV A
	N	SHEET NO. 3	60462210	PAGE JS-03	

ADU/BAS MASK AND GROUP ERRORS (3.2)

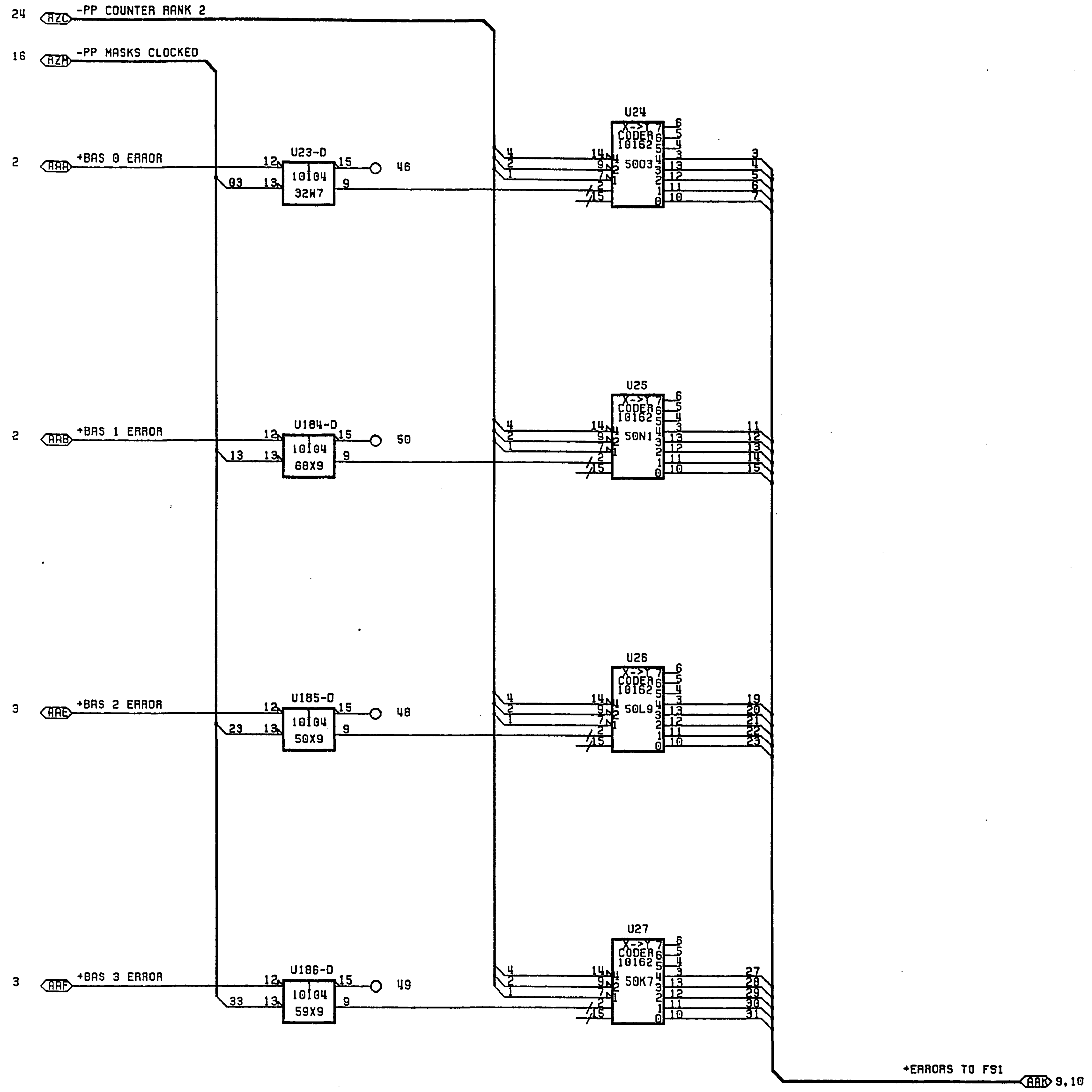


CONVERSION ERROR DLY



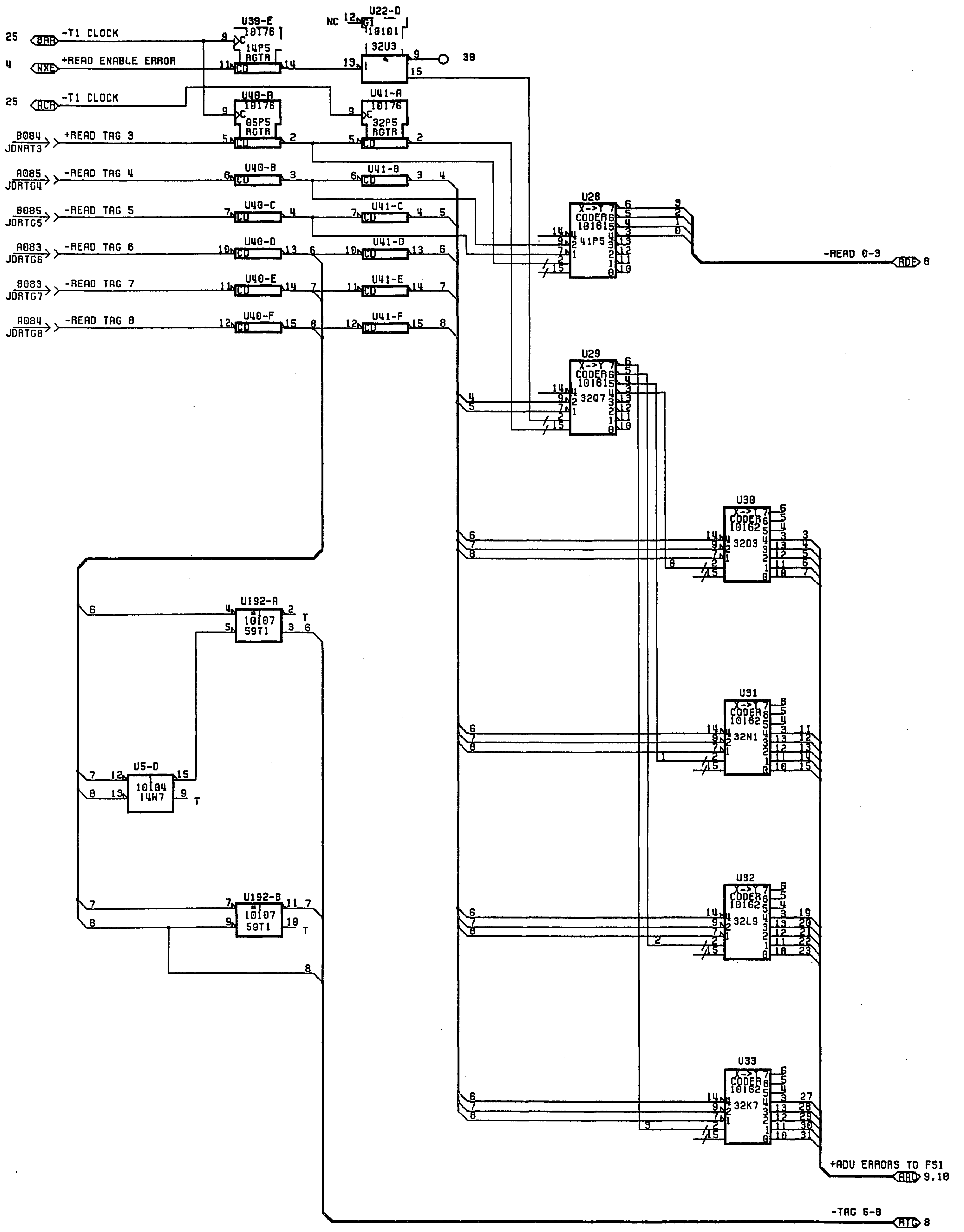
CONTROL DATA	MAINTENANCE REGISTER A MASK AND GROUP ERRORS WRITE AND READ ON ADU/BAS TYPE 1JSH	B	DWG NO. 22130333	DATE 10/09/86	REV C
		N	SHEET NO. 4	60462210	PAGE JS-04

BAS PPU ERROR GEN (3.3)



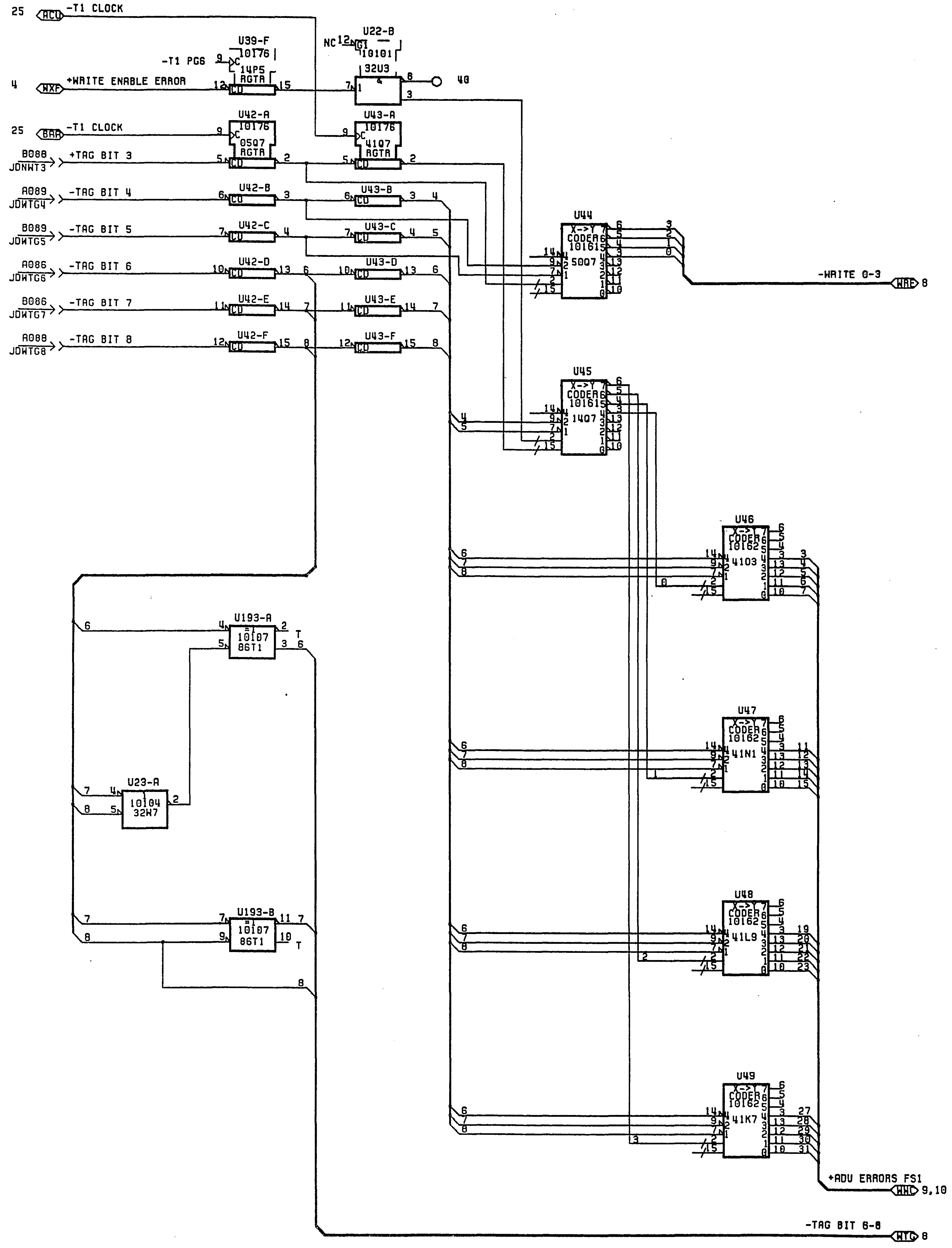
CONTROL DATA	MAINTENANCE REGISTER A BARREL PPU ERROR GENERATOR	B	DWG NO. 22130393	DATE 03/21/86	REV A
	TYPE 1JSH N	SHEET NO. 5	60462210	PAGE JS-05	

READ TAG ERROR GEN (3.3)



CONTROL DATA	MAINTENANCE REGISTER A READ TAG ERROR GENERATOR TYPE 1JSH	B	DWG NO. 22190393	DATE 03/21/86	REV A
		SHEET NO. 6	60462210	PAGE J9-06	

WRITE TAG ERROR GEN (3.3)



CONTROL DATA

MAINTENANCE REGISTER A
WRITE TAG ERROR GENERATOR

TYPE 1JSH

B

DWG NO. 22130333

DATE 03/21/86

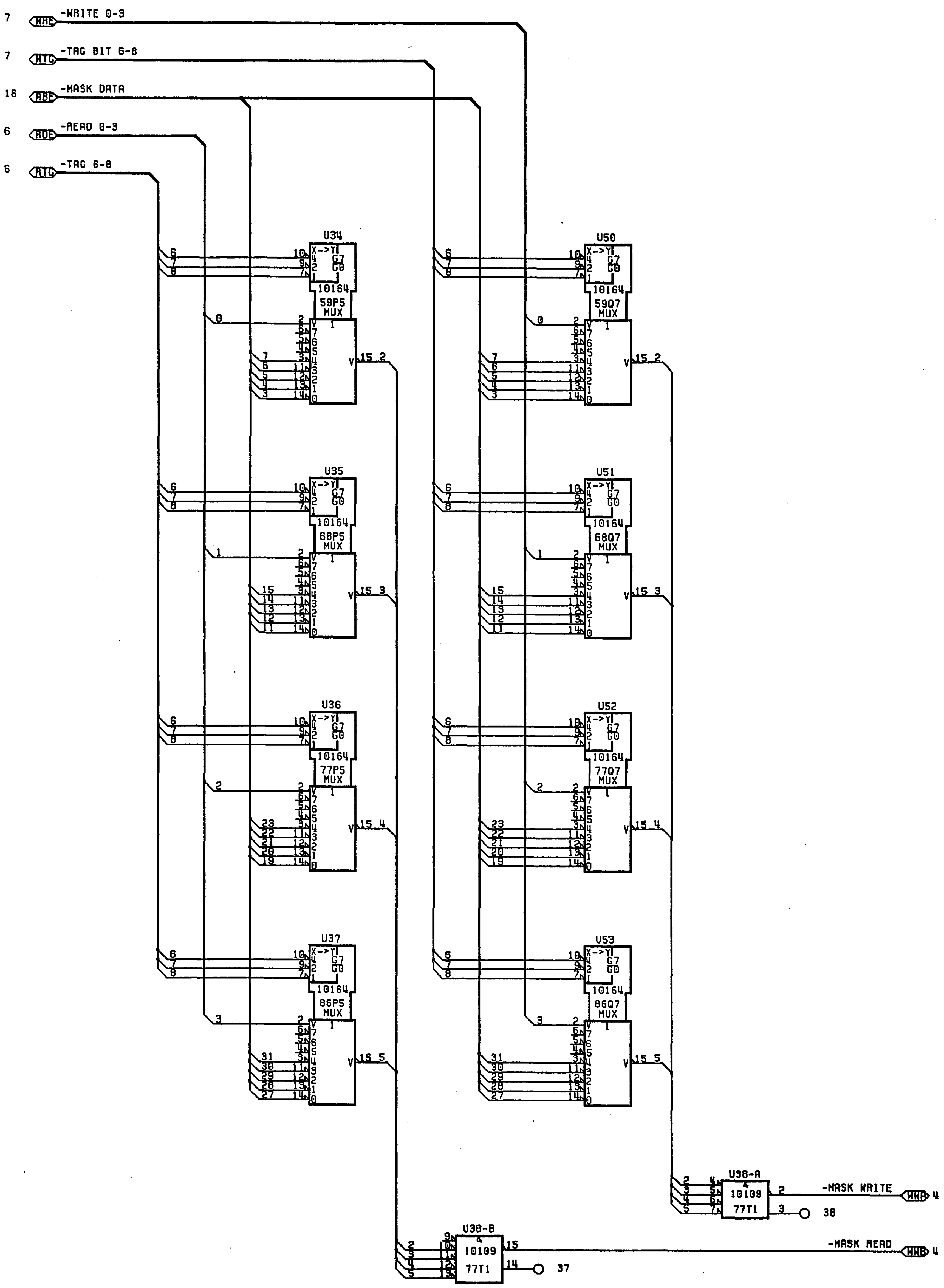
REV A

SHEET NO. 7

60462210

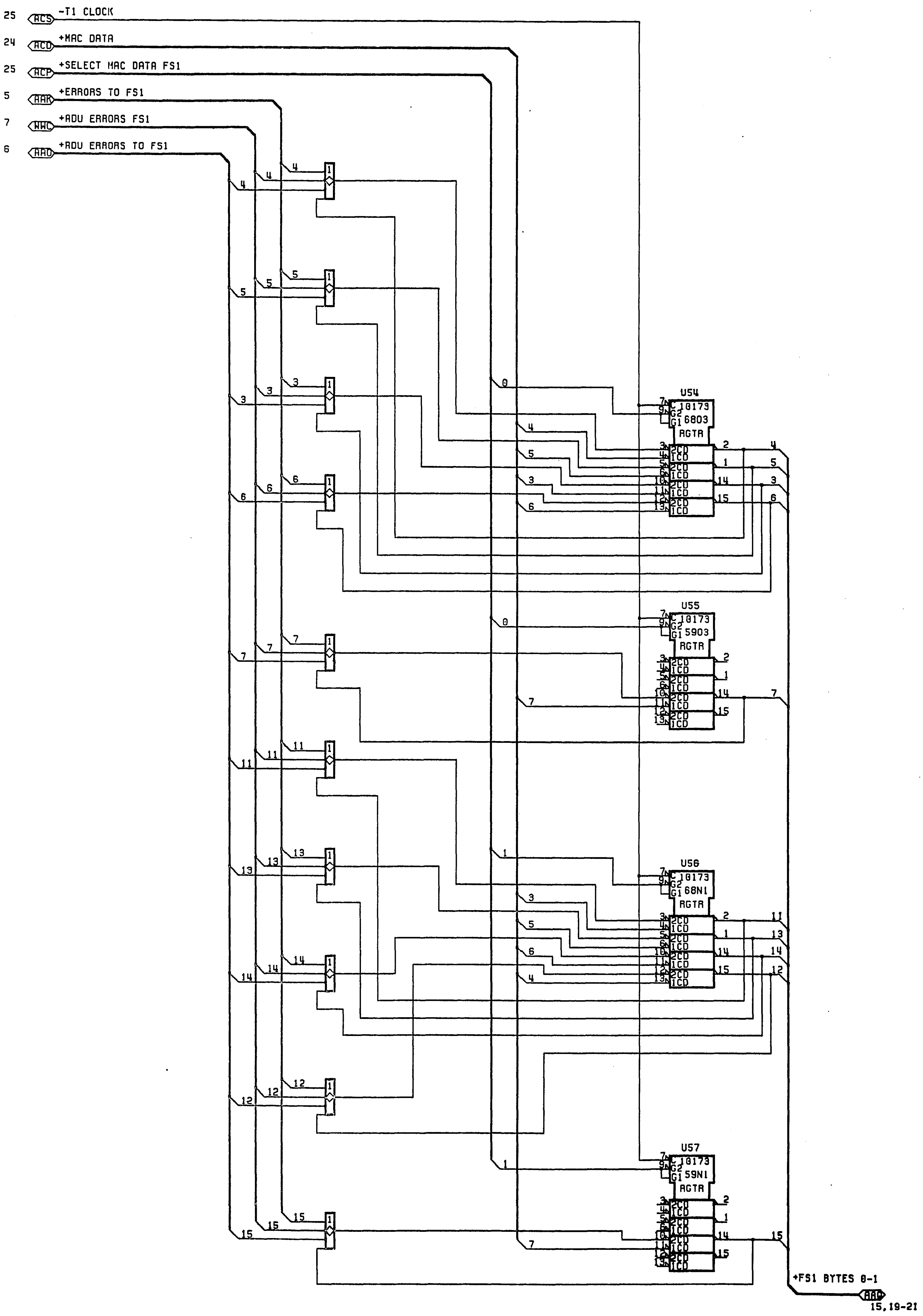
PAGE JS-07

ADU/BAS MASK (3.2)



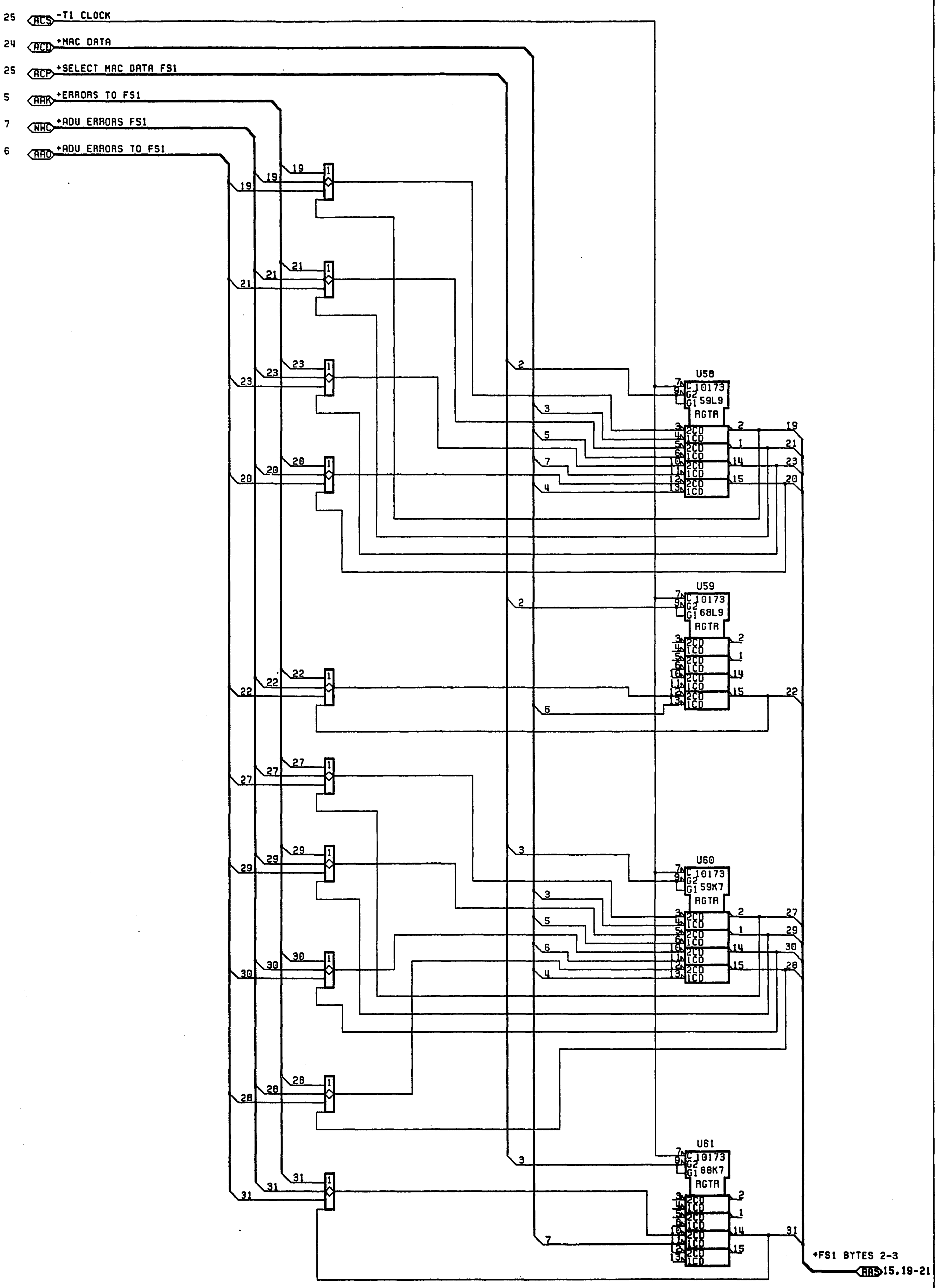
CONTROL DATA	MAINTENANCE REGISTER A ADU/BAS MASK TYPE 1JSH	B	DWG NO. 22130333	DATE 03/21/86	REV A
			SHEET NO. 8	60462210	PAGE JS-08

FS1 BYTES 0-1 (3.3)



CONTROL DATA	MAINTENANCE REGISTER A FS1 BYTES 0-1	B	DWG NO. 22130333	DATE 03/21/86	REV A
	TYPE 1JSH	N	SHEET NO. 9	60462210	PAGE JS-09

FS1 BYTES 2-3 (3.3)



MAINTENANCE REGISTER A
FS1 BYTES 2-3
TYPE 1JSH

CONTROL DATA

B

N

DWG NO. 22130333

DATE 03/21/86

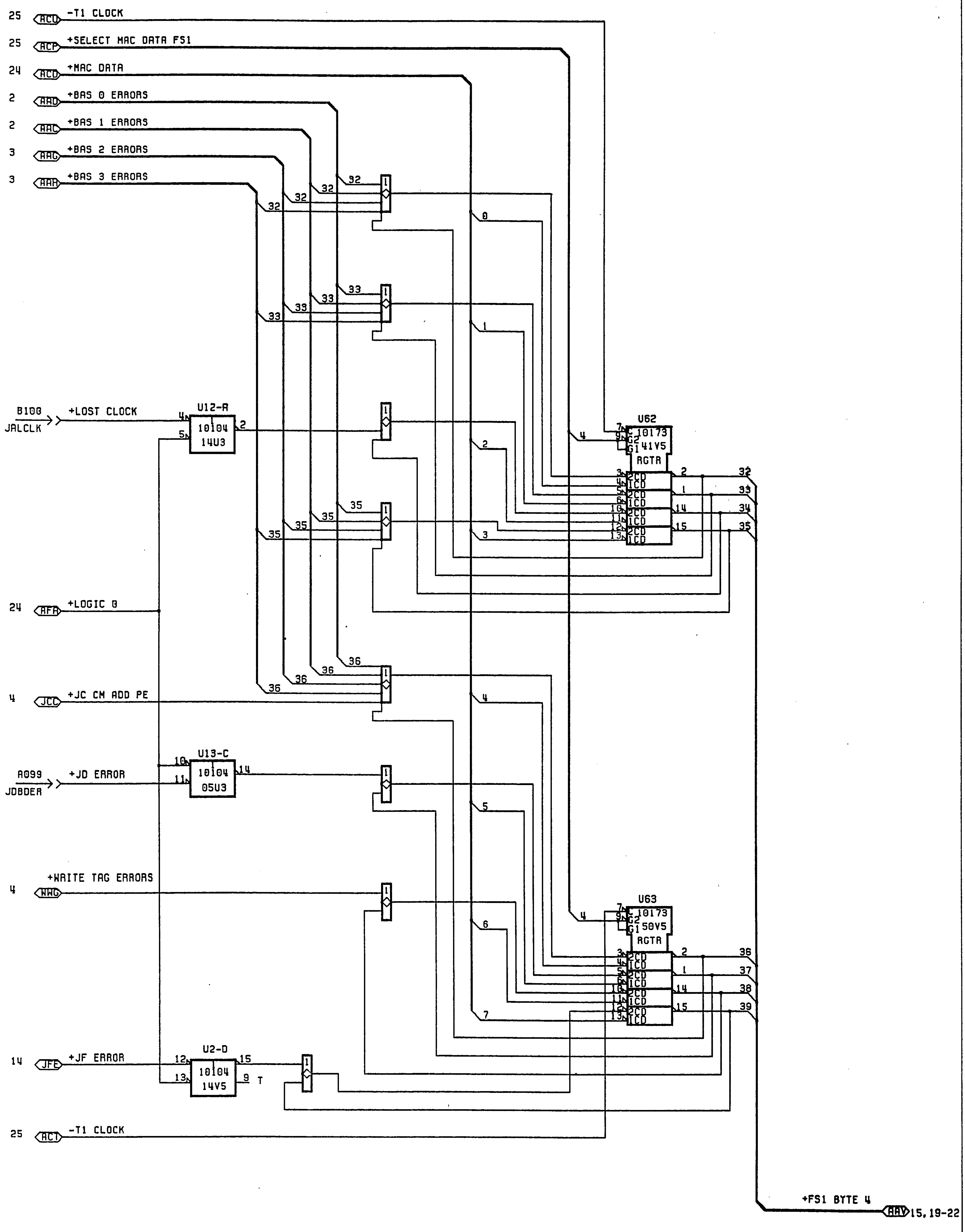
REV A

SHEET NO. 10

60462210

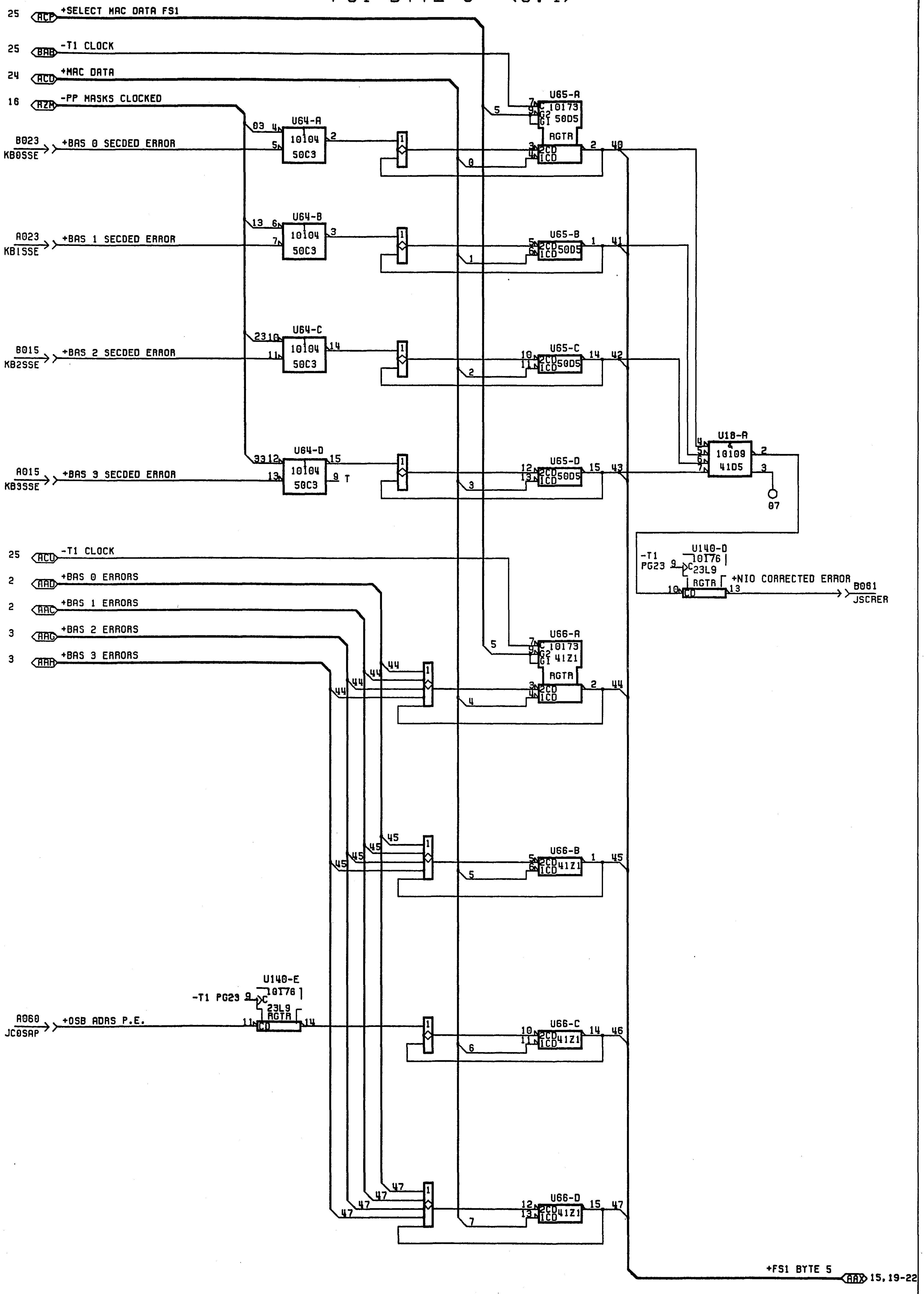
PAGE JS-10

FS1 BYTE 4 (3.4)



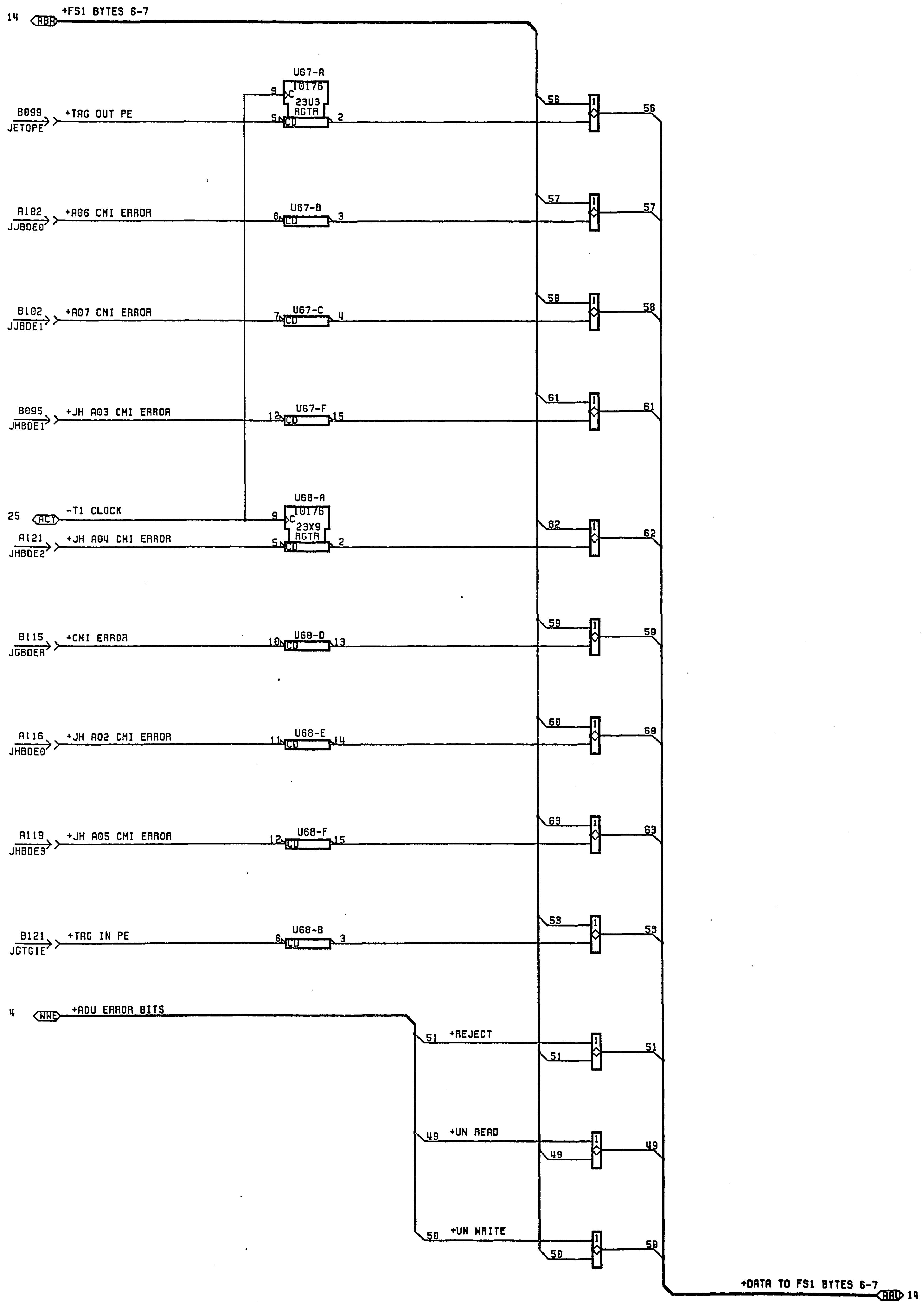
CONTROL DATA	MAINTENANCE REGISTER A FS1 BYTE 4 TYPE 1JSH	B	DWG NO. 22130333	DATE 09/21/86	REV A
			SHEET NO. 11	60462210	PAGE JS-11

FS1 BYTE 5 (3.4)



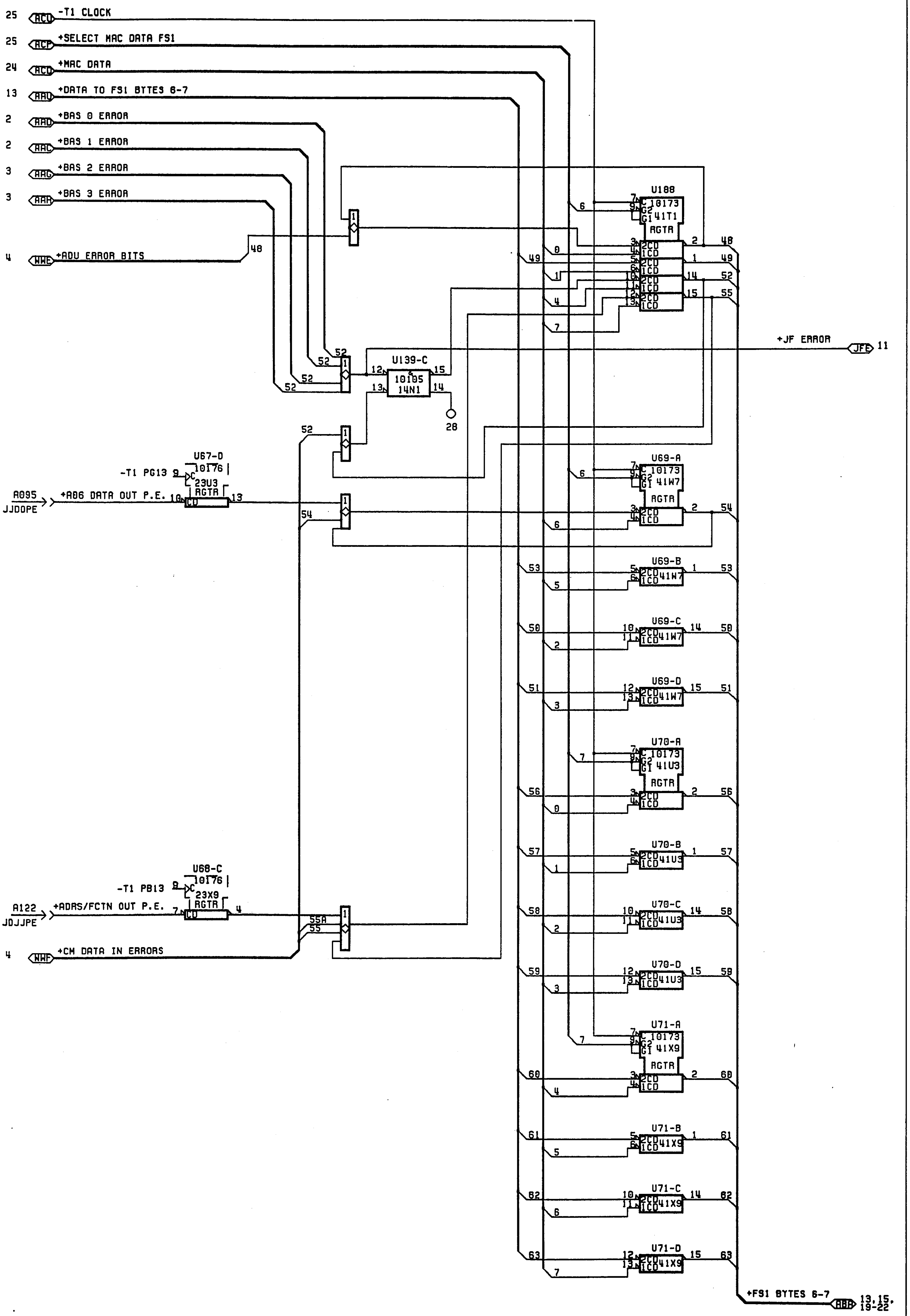
CONTROL DATA	MAINTENANCE REGISTER A FS1 BYTE 5 TYPE 1JSH	B	DWG NO. 22130333	DATE 03/21/86	REV A
		N	SHEET NO. 12	60462210	PAGE JS-12

ERROR REPORTING BYTES 6,7 (3.4)



CONTROL DATA	MAINTENANCE REGISTER A ERROR REPORTING BYTES 6,7	B	DWG NO. 22190393	DATE 03/21/86	REV A
	TYPE 1JSH	N	SHEET NO. 13	60462210	PAGE JS-13

FS1 BYTES 6-7 (3.4)



CONTROL DATA

MAINTENANCE REGISTER A
FS1 BYTES 6-7

TYPE 1JSH

B

DWG NO. 22130333

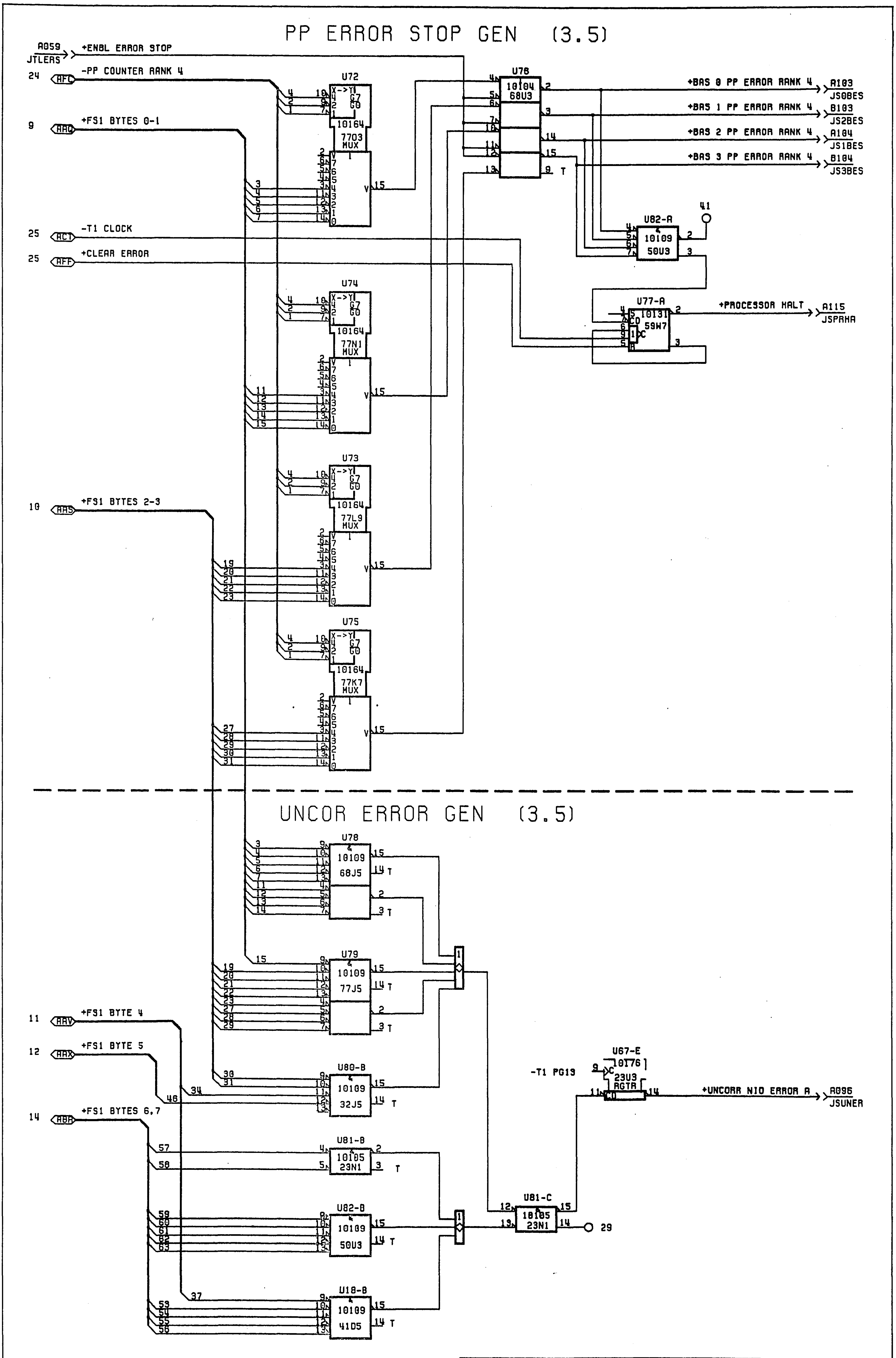
DATE 03/21/86

REV A

SHEET NO. 14

60462210

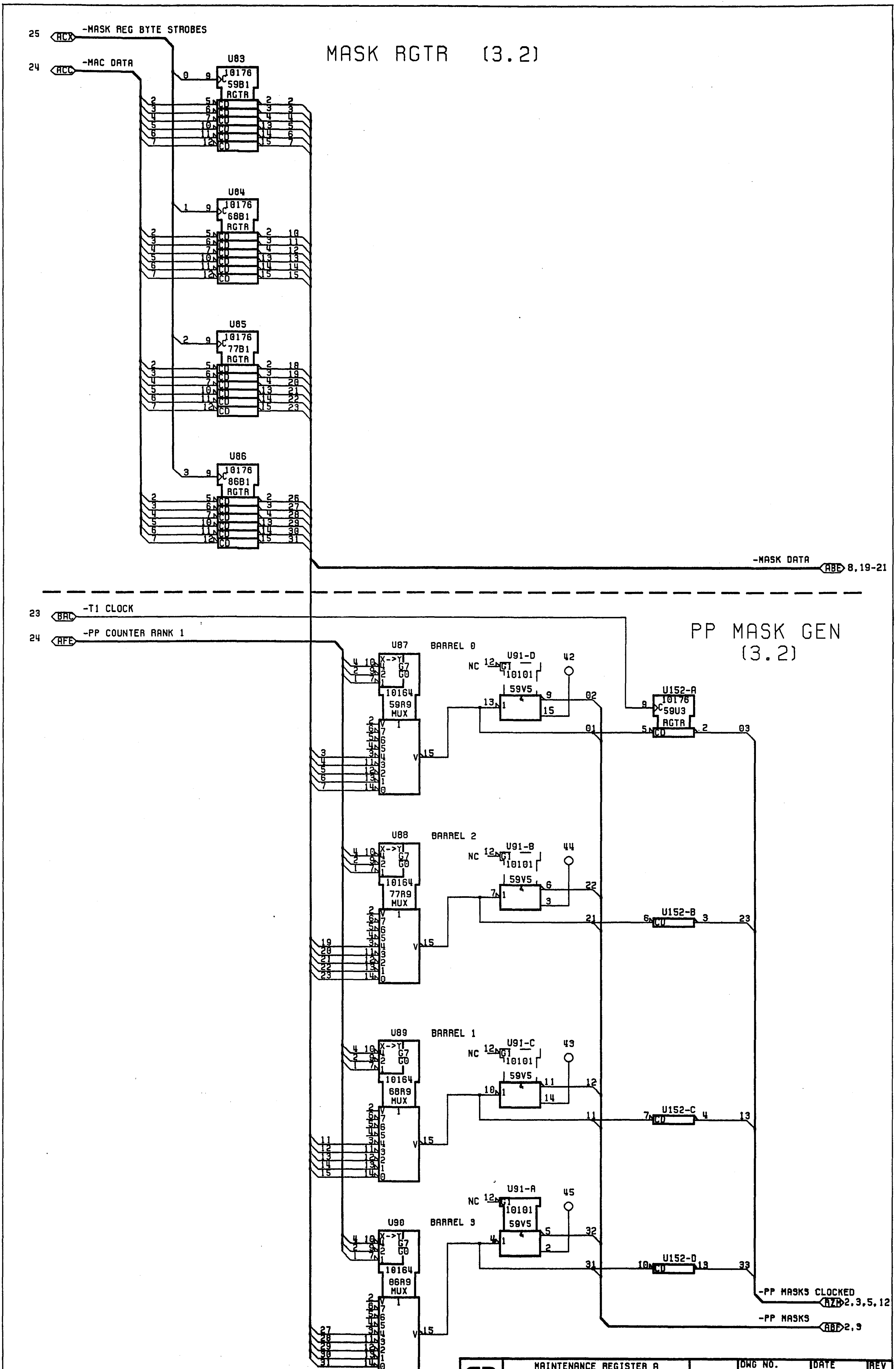
PAGE JS-14



CONTROL DATA

MAINTENANCE REGISTER A
PP ERROR STOP GENERATOR AND
UNCORRECTABLE ERROR GENERATOR
TYPE 1JSH

B	DWG NO. 22130333	DATE 03/21/86	REV A
SHEET NO. 15	60462210	PAGE J9-15	

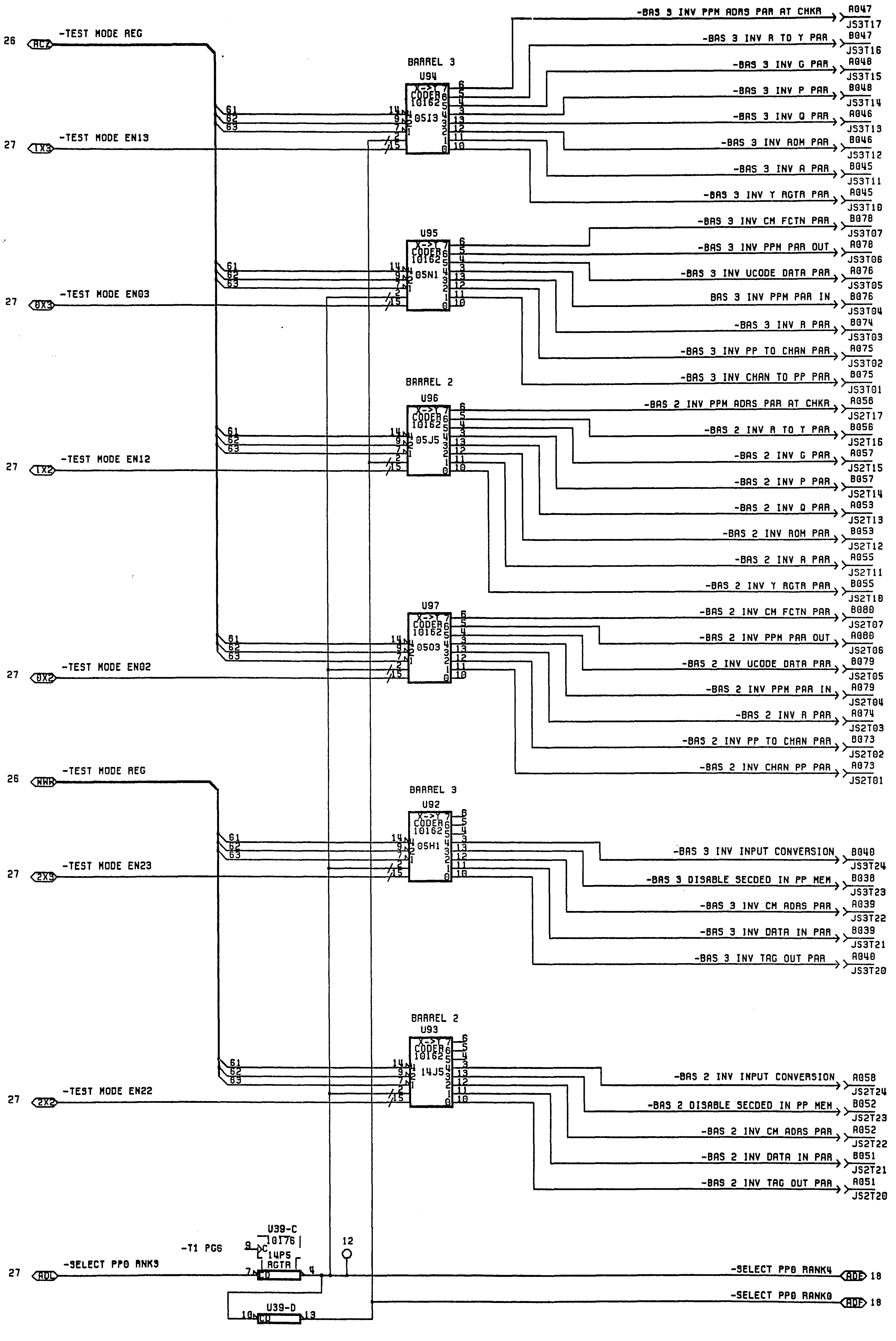


CONTROL DATA

MAINTENANCE REGISTER A
MASK REGISTER
PP MASK GENERATOR
TYPE 1J9H

B	DWG NO. 22130333	DATE 03/21/86	REV A
SHEET NO. 16	60462210	PAGE JS-16	

TEST MODE DCDRS BAS 2 & 3 (3.6)

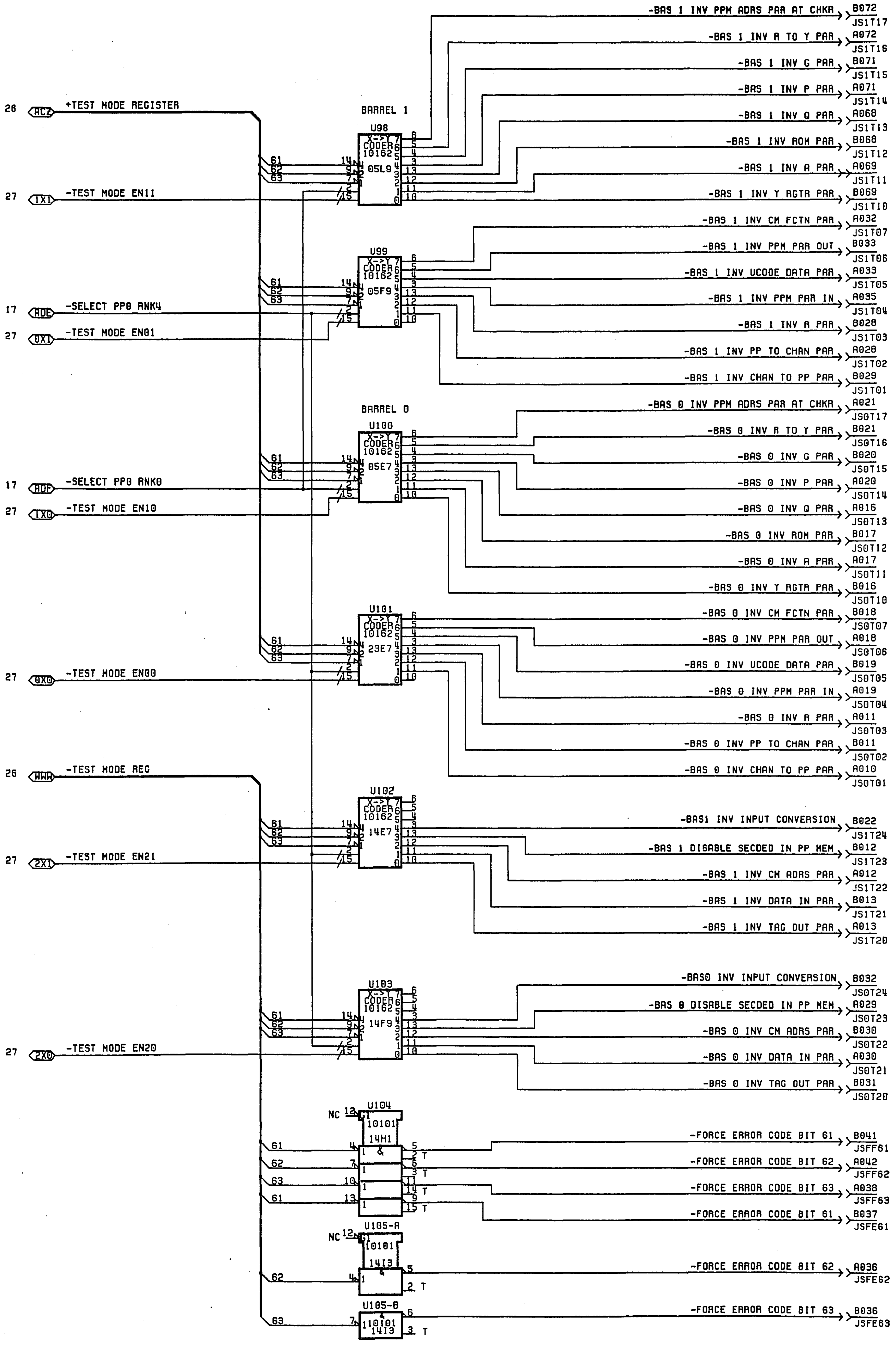

26 ACZ -TEST MODE REG
27 1X3 -TEST MODE EN13
27 0X3 -TEST MODE EN03
27 1X2 -TEST MODE EN12
27 0X2 -TEST MODE EN02
26 WWH -TEST MODE REG
27 2X3 -TEST MODE EN23
27 2X2 -TEST MODE EN22
27 ADL -SELECT PP0 RNK3
BARREL 3
U94
X->Y
CODER
10162
05I3
U95
05N1
BARREL 2
U96
05J5
U97
05O3
BARREL 3
U92
05H1
BARREL 2
U93
14J5
G1
G2
G3
-BAS 3 INV PPM ADRS PAR AT CHKR A047 JS3T17
-BAS 3 INV A TO Y PAR B047 JS3T16
-BAS 3 INV G PAR A048 JS3T15
-BAS 3 INV P PAR B048 JS3T14
-BAS 3 INV Q PAR A046 JS3T13
-BAS 3 INV ROM PAR B046 JS3T12
-BAS 3 INV A PAR B045 JS3T11
-BAS 3 INV Y RGTR PAR A045 JS3T10
-BAS 3 INV CM FCTN PAR B078 JS3T07
-BAS 3 INV PPM PAR OUT A078 JS3T06
-BAS 3 INV UCODE DATA PAR A076 JS3T05
BAS 3 INV PPM PAR IN B076 JS3T04
-BAS 3 INV R PAR B074 JS3T03
-BAS 3 INV PP TO CHAN PAR A075 JS3T02
-BAS 3 INV CHAN TO PP PAR B075 JS3T01
-BAS 2 INV PPM ADRS PAR AT CHKR A056 JS2T17
-BAS 2 INV A TO Y PAR B056 JS2T16
-BAS 2 INV G PAR A057 JS2T15
-BAS 2 INV P PAR B057 JS2T14
-BAS 2 INV Q PAR A053 JS2T13
-BAS 2 INV ROM PAR B053 JS2T12
-BAS 2 INV A PAR A055 JS2T11
-BAS 2 INV Y RGTR PAR B055 JS2T10
-BAS 2 INV CM FCTN PAR B080 JS2T07
-BAS 2 INV PPM PAR OUT A080 JS2T06
-BAS 2 INV UCODE DATA PAR B079 JS2T05
-BAS 2 INV PPM PAR IN A079 JS2T04
-BAS 2 INV R PAR A074 JS2T03
-BAS 2 INV PP TO CHAN PAR B073 JS2T02
-BAS 2 INV CHAN PP PAR A073 JS2T01
-BAS 3 INV INPUT CONVERSION B040 JS3T24
-BAS 3 DISABLE SECDED IN PP MEM B038 JS3T23
-BAS 3 INV CM ADRS PAR A039 JS3T22
-BAS 3 INV DATA IN PAR B039 JS3T21
-BAS 3 INV TAG OUT PAR A040 JS3T20
-BAS 2 INV INPUT CONVERSION A058 JS2T24
-BAS 2 DISABLE SECDED IN PP MEM B052 JS2T23
-BAS 2 INV CM ADRS PAR A052 JS2T22
-BAS 2 INV DATA IN PAR B051 JS2T21
-BAS 2 INV TAG OUT PAR A051 JS2T20
U39-C
10176
14P5
RGTR
-T1 PG6
12
U39-D
-SELECT PP0 RANK4 ADE 18
-SELECT PP0 RANK0 ADF 18

CONTROL DATA

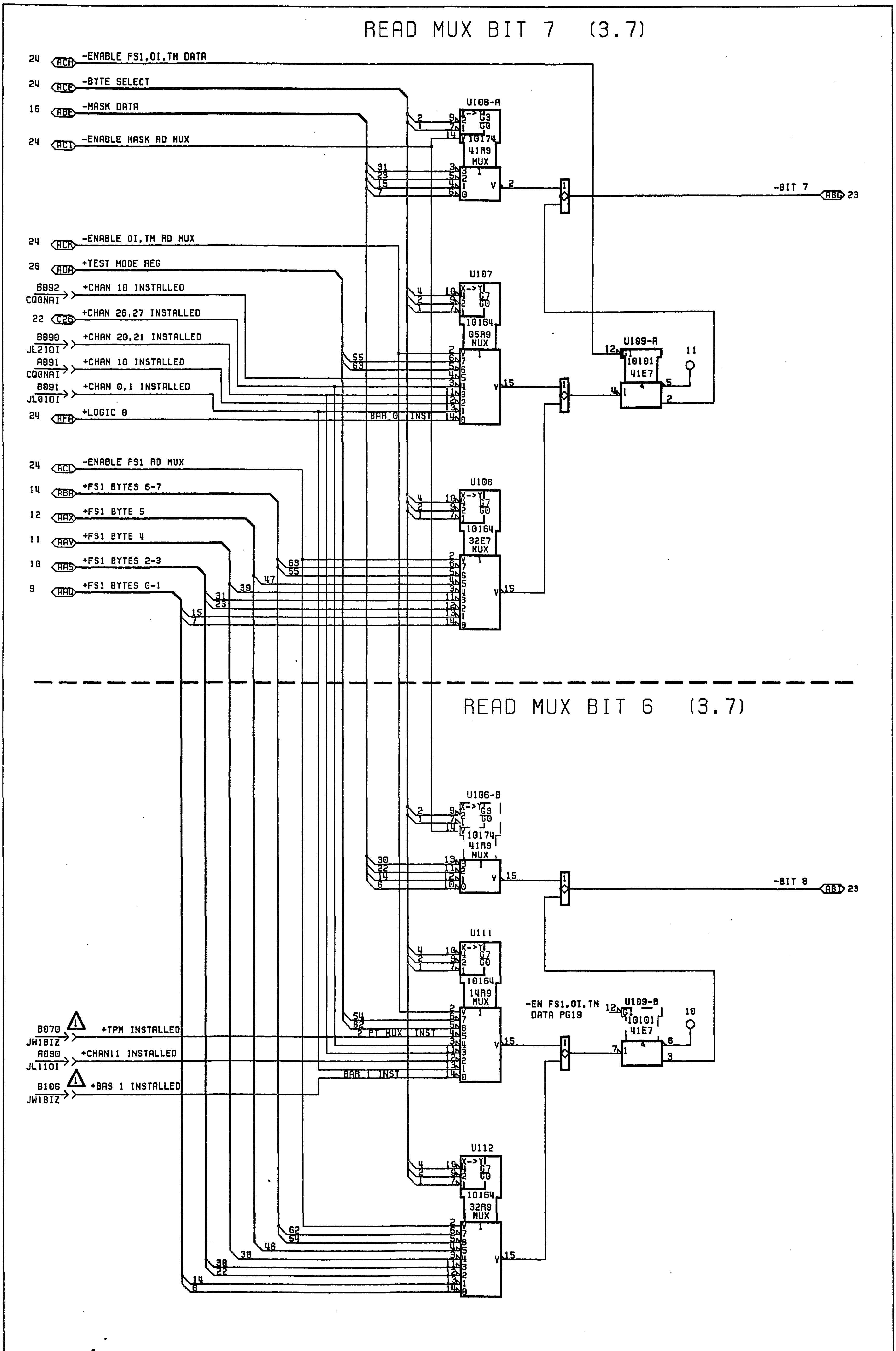
MAINTENANCE REGISTER A
TEST MODE DECODERS
BARREL 2-3
TYPE 1JSH

B	DWG NO. 22190333	DATE 03/21/86	REV A
SHEET NO. 17	60462210	PAGE JS-17	

TEST MODE DCDRS BAS 0 & 1 (3.6)


26 HC2 +TEST MODE REGISTER
27 1X1 -TEST MODE EN11
17 HDE -SELECT PP0 RNK4
27 0X1 -TEST MODE EN01
17 HDF -SELECT PP0 RNK0
27 1X0 -TEST MODE EN10
27 0X0 -TEST MODE EN00
26 HHH -TEST MODE REG
27 2X1 -TEST MODE EN21
27 2X0 -TEST MODE EN20
BARREL 1
U98 X->Y CODER 10162 05L9
U99 X->Y CODER 10162 05F9
BARREL 0
U100 X->Y CODER 10162 05E7
U101 X->Y CODER 10162 23E7
U102 X->Y CODER 10162 14E7
U103 X->Y CODER 10162 14F9
U104 10101 14H1
U105-A 10101 14I3
U105-B 10101 14I3
NC
61
62
63
-BAS 1 INV PPM ADRS PAR AT CHKR B072 JS1T17
-BAS 1 INV A TO Y PAR A072 JS1T16
-BAS 1 INV G PAR B071 JS1T15
-BAS 1 INV P PAR A071 JS1T14
-BAS 1 INV Q PAR A068 JS1T13
-BAS 1 INV ROM PAR B068 JS1T12
-BAS 1 INV A PAR A069 JS1T11
-BAS 1 INV Y RGTR PAR B069 JS1T10
-BAS 1 INV CM FCTN PAR A032 JS1T07
-BAS 1 INV PPM PAR OUT B033 JS1T06
-BAS 1 INV UCODE DATA PAR A033 JS1T05
-BAS 1 INV PPM PAR IN A035 JS1T04
-BAS 1 INV R PAR B028 JS1T03
-BAS 1 INV PP TO CHAN PAR A028 JS1T02
-BAS 1 INV CHAN TO PP PAR B029 JS1T01
-BAS 0 INV PPM ADRS PAR AT CHKR A021 JS0T17
-BAS 0 INV A TO Y PAR B021 JS0T16
-BAS 0 INV G PAR B020 JS0T15
-BAS 0 INV P PAR A020 JS0T14
-BAS 0 INV Q PAR A016 JS0T13
-BAS 0 INV ROM PAR B017 JS0T12
-BAS 0 INV A PAR A017 JS0T11
-BAS 0 INV Y RGTR PAR B016 JS0T10
-BAS 0 INV CM FCTN PAR B018 JS0T07
-BAS 0 INV PPM PAR OUT A018 JS0T06
-BAS 0 INV UCODE DATA PAR B019 JS0T05
-BAS 0 INV PPM PAR IN A019 JS0T04
-BAS 0 INV R PAR A011 JS0T03
-BAS 0 INV PP TO CHAN PAR B011 JS0T02
-BAS 0 INV CHAN TO PP PAR A010 JS0T01
-BAS1 INV INPUT CONVERSION B022 JS1T24
-BAS 1 DISABLE SECDED IN PP MEM B012 JS1T23
-BAS 1 INV CM ADRS PAR A012 JS1T22
-BAS 1 INV DATA IN PAR B013 JS1T21
-BAS 1 INV TAG OUT PAR A013 JS1T20
-BAS0 INV INPUT CONVERSION B032 JS0T24
-BAS 0 DISABLE SECDED IN PP MEM A029 JS0T23
-BAS 0 INV CM ADRS PAR B030 JS0T22
-BAS 0 INV DATA IN PAR A030 JS0T21
-BAS 0 INV TAG OUT PAR B031 JS0T20
-FORCE ERROR CODE BIT 61 B041 JSFF61
-FORCE ERROR CODE BIT 62 A042 JSFF62
-FORCE ERROR CODE BIT 63 A038 JSFF63
-FORCE ERROR CODE BIT 61 B037 JSFE61
-FORCE ERROR CODE BIT 62 A036 JSFE62
-FORCE ERROR CODE BIT 63 B036 JSFE63

CONTROL DATA	MAINTENANCE REGISTER A TEST MODE DECODERS BARREL 0-1 TYPE 1JSH	B	DWG NO. 22130333	DATE 03/21/86	REV A
		SHEET NO. 18	60462210	PAGE JS-18	

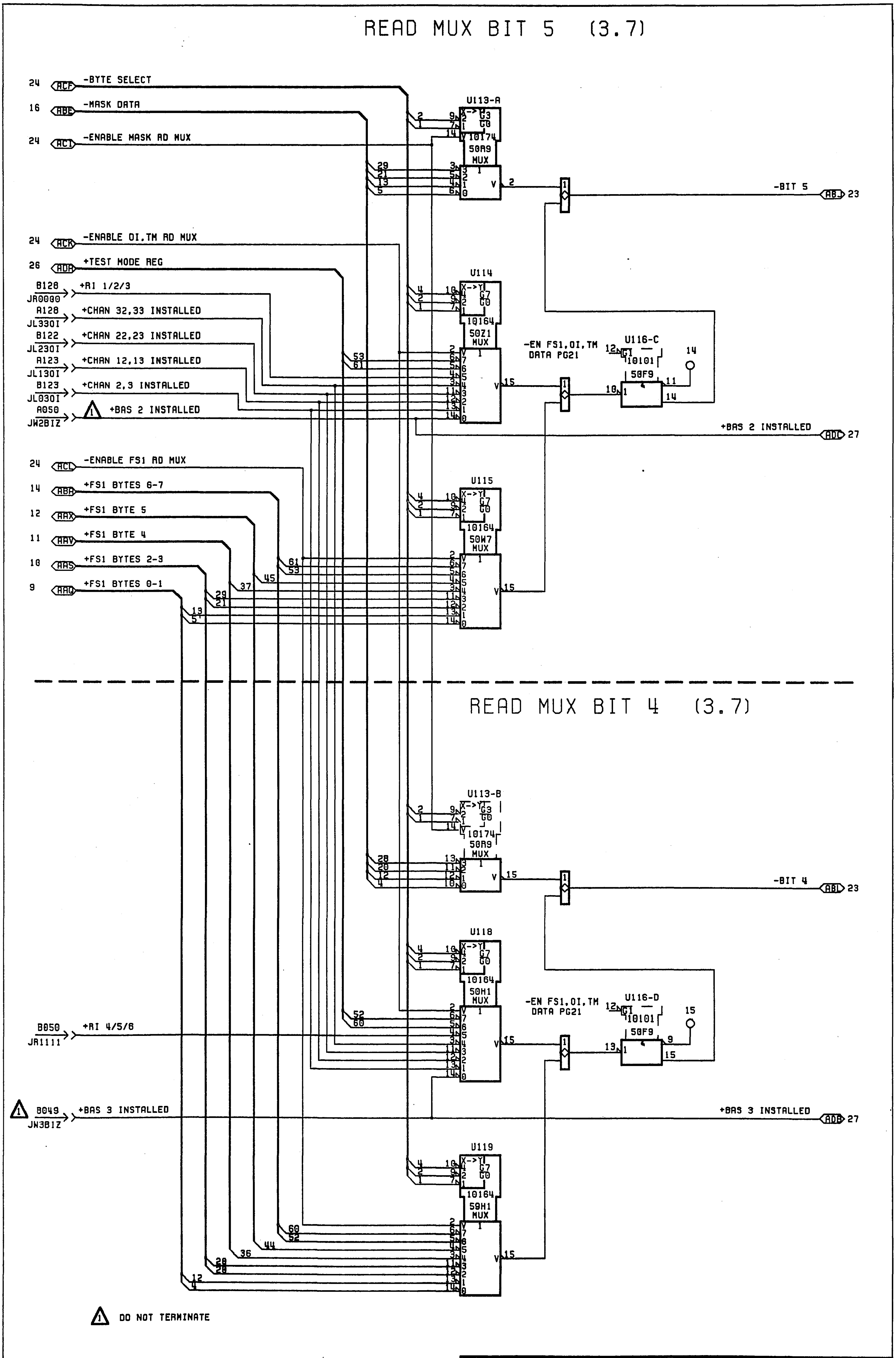


⚠ DO NOT TERMINATE

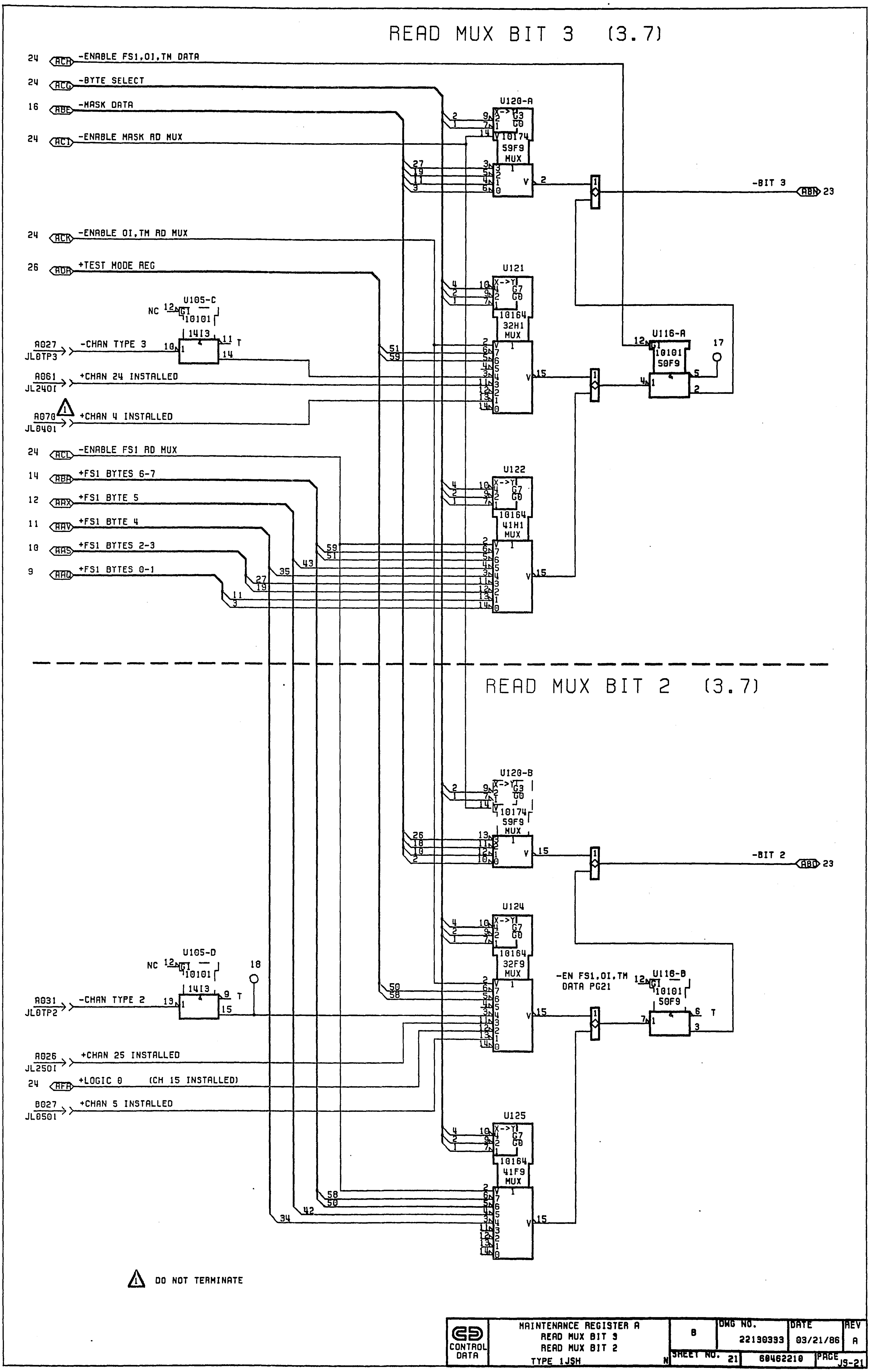
CONTROL DATA

MAINTENANCE REGISTER A
READ MUX BIT 7
READ MUX BIT 6
TYPE 1JSH

B
DWG NO. 22130333
DATE 03/21/86
REV A
SHEET NO. 19
60462210
PAGE JS-19



CONTROL DATA	MAINTENANCE REGISTER A READ MUX BIT 5 READ MUX BIT 4 TYPE 1JSH	B	DWG NO. 22130333	DATE 03/21/86	REV A
		SHEET NO. 20	60462210	PAGE JS-20	

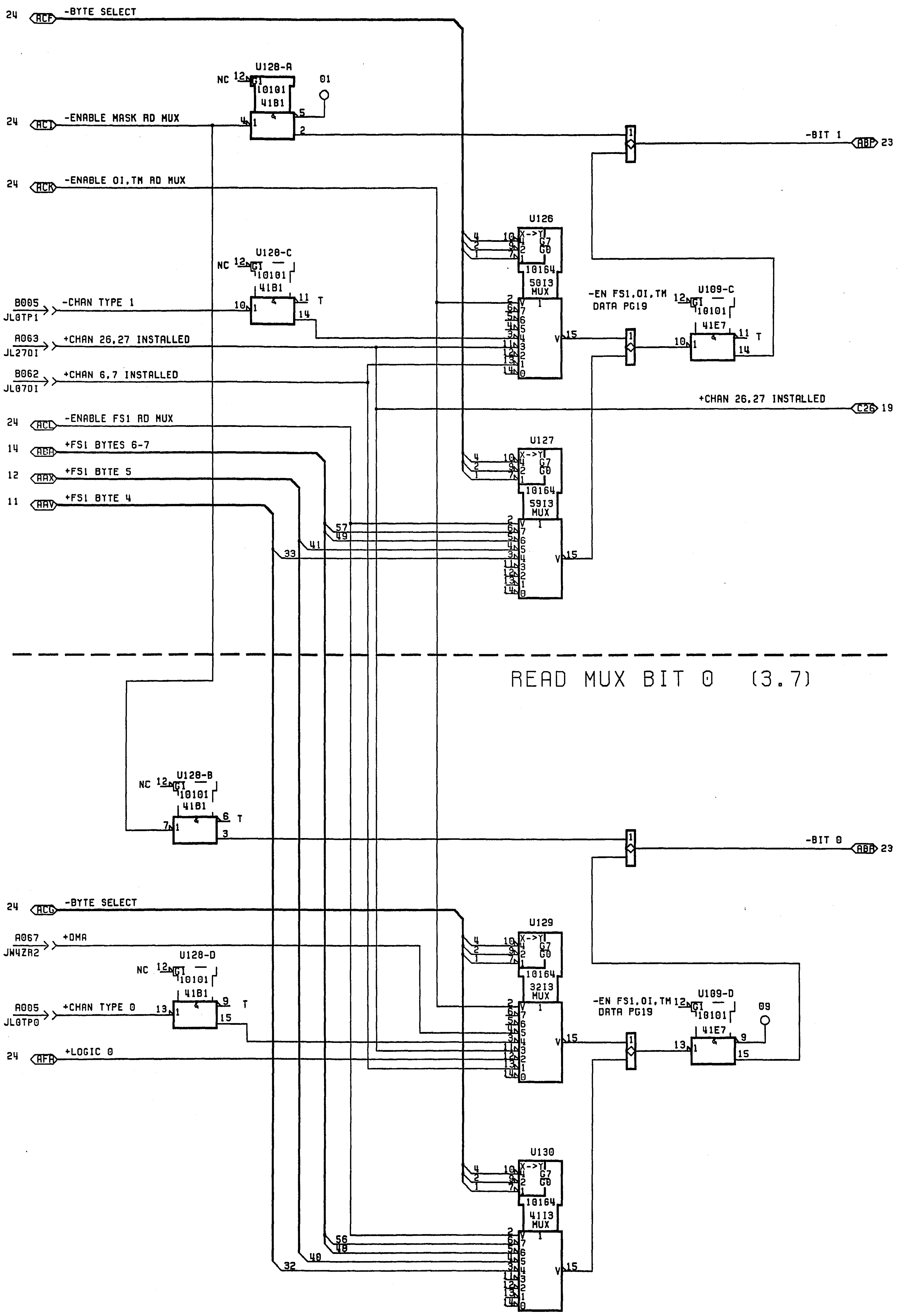


CONTROL DATA

MAINTENANCE REGISTER A
READ MUX BIT 3
READ MUX BIT 2
TYPE 1JSH

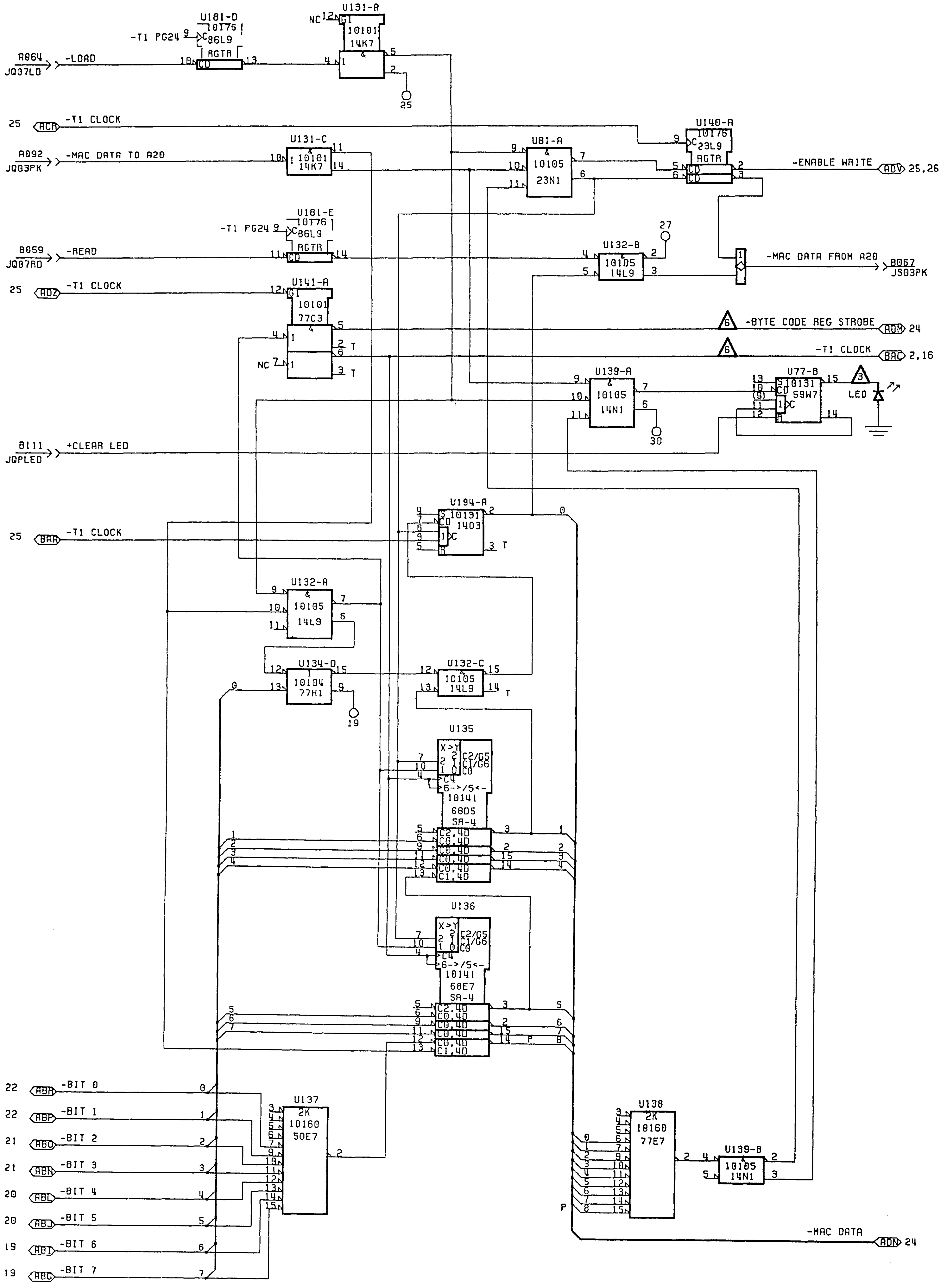
B	DWG NO. 22130393	DATE 03/21/86	REV A
SHEET NO. 21	60462210	PAGE JS-21	

READ MUX BIT 1 (3.7)



CONTROL DATA	MAINTENANCE REGISTER A READ MUX BIT 1 READ MUX BIT 0 TYPE 1JSH	B	DWG NO. 22130333	DATE 03/21/86	REV A
		N	SHEET NO. 22	60462210	PAGE JS-22

MAC INTERFACE (3.0)



3 TERMINATE

6 12 INCH MAXIMUN LENGTH

CONTROL DATA

MAINTENANCE REGISTER A
MAC INTERFACE

TYPE 1JSH

B

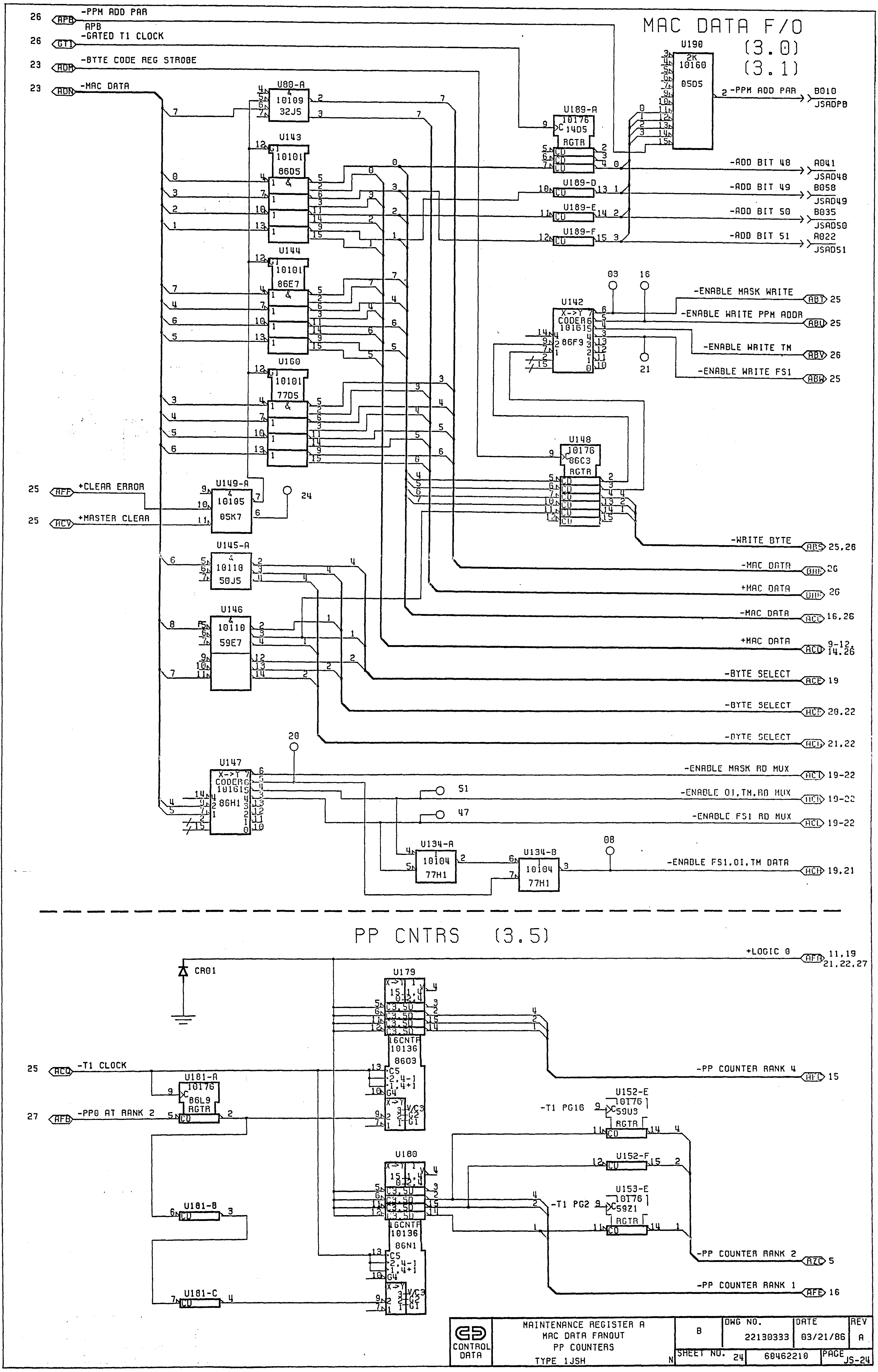
DWG NO. 22130333

DATE 01/12/87

REV D

N SHEET NO. 23 60462210

PAGE JS-23

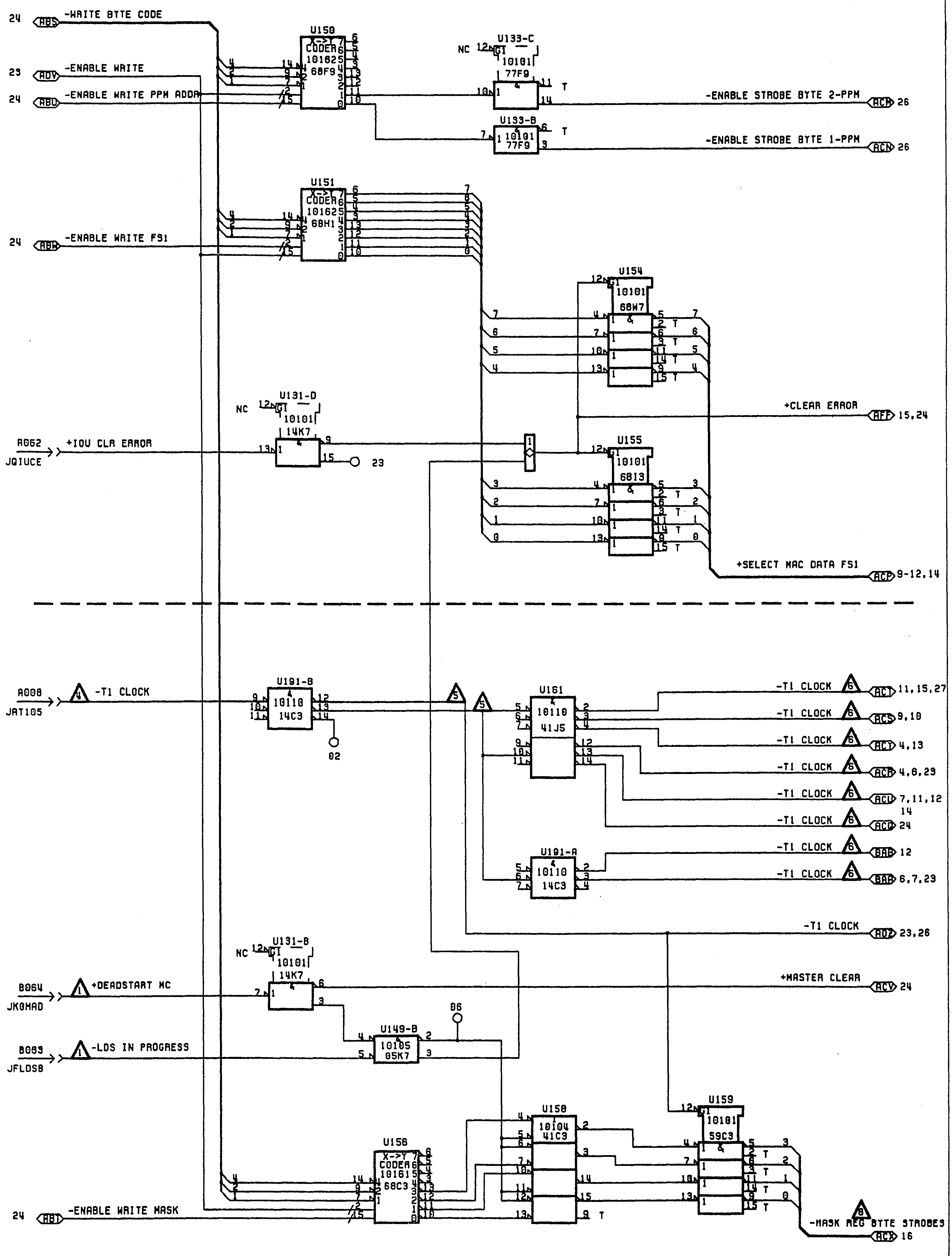


CONTROL DATA

MAINTENANCE REGISTER A
MAC DATA FANOUT
PP COUNTERS
TYPE 1JSH

B	DWG NO. 22130333	DATE 03/21/86	REV A
SHEET NO. 24	60462210	PAGE JS-24	

BYTE STROBE ENBL DECODES (3.1)



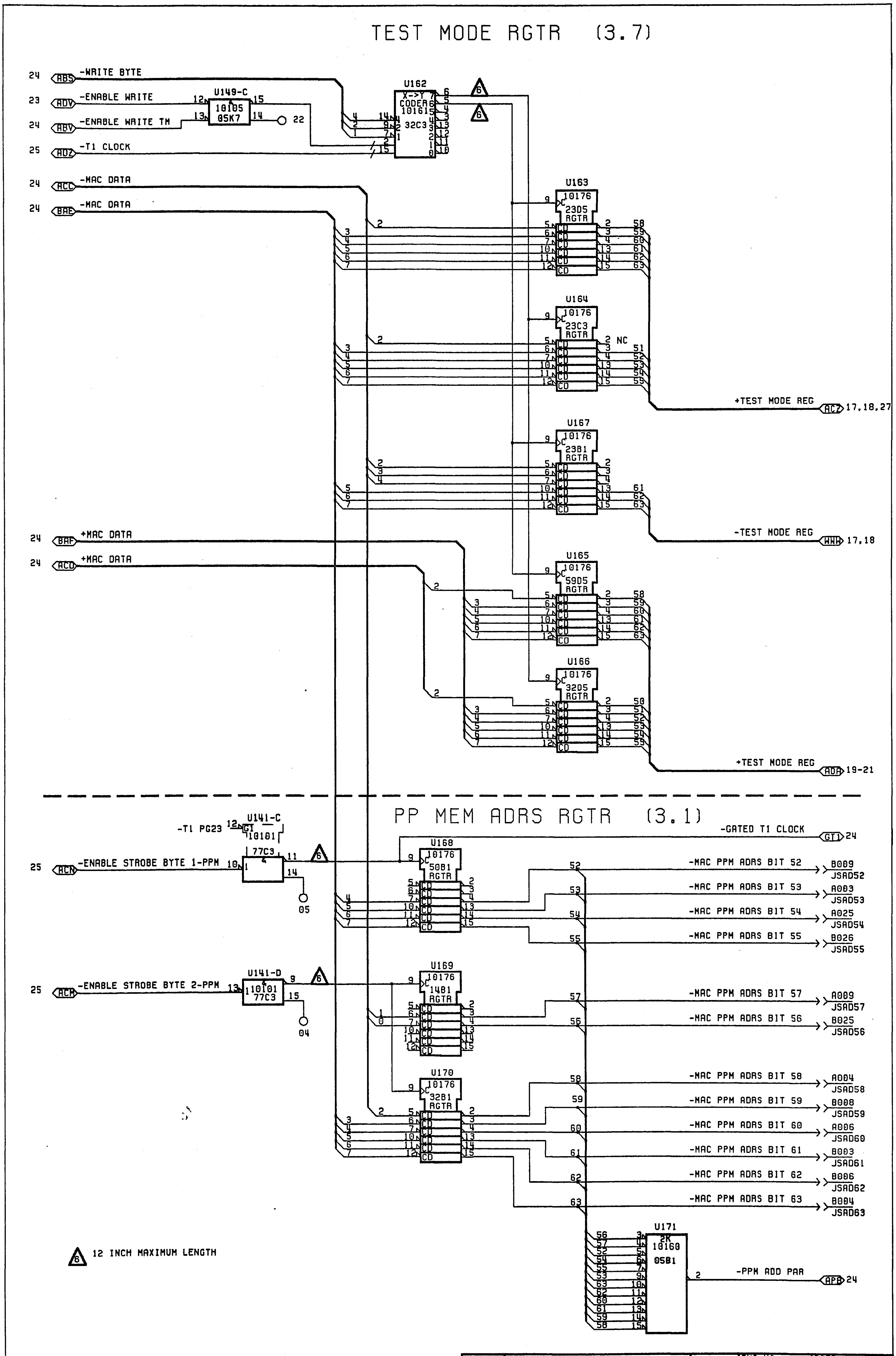
1 NOT TERMINATED

4 4 INCH MAXIMUM LENGTH

5 7 INCH MAXIMUM LENGTH

6 12 INCH MAXIMUM LENGTH

CONTROL DATA	MAINTENANCE REGISTER A BYTE STROBE ENABLE DECODES CLOCK F/O & WRITE STROBE DECODES TYPE 1J9H	B	DWG NO. 22190393	DATE 08/26/88	REV B
		SHEET NO. 25	60462210	PAGE J9-25	



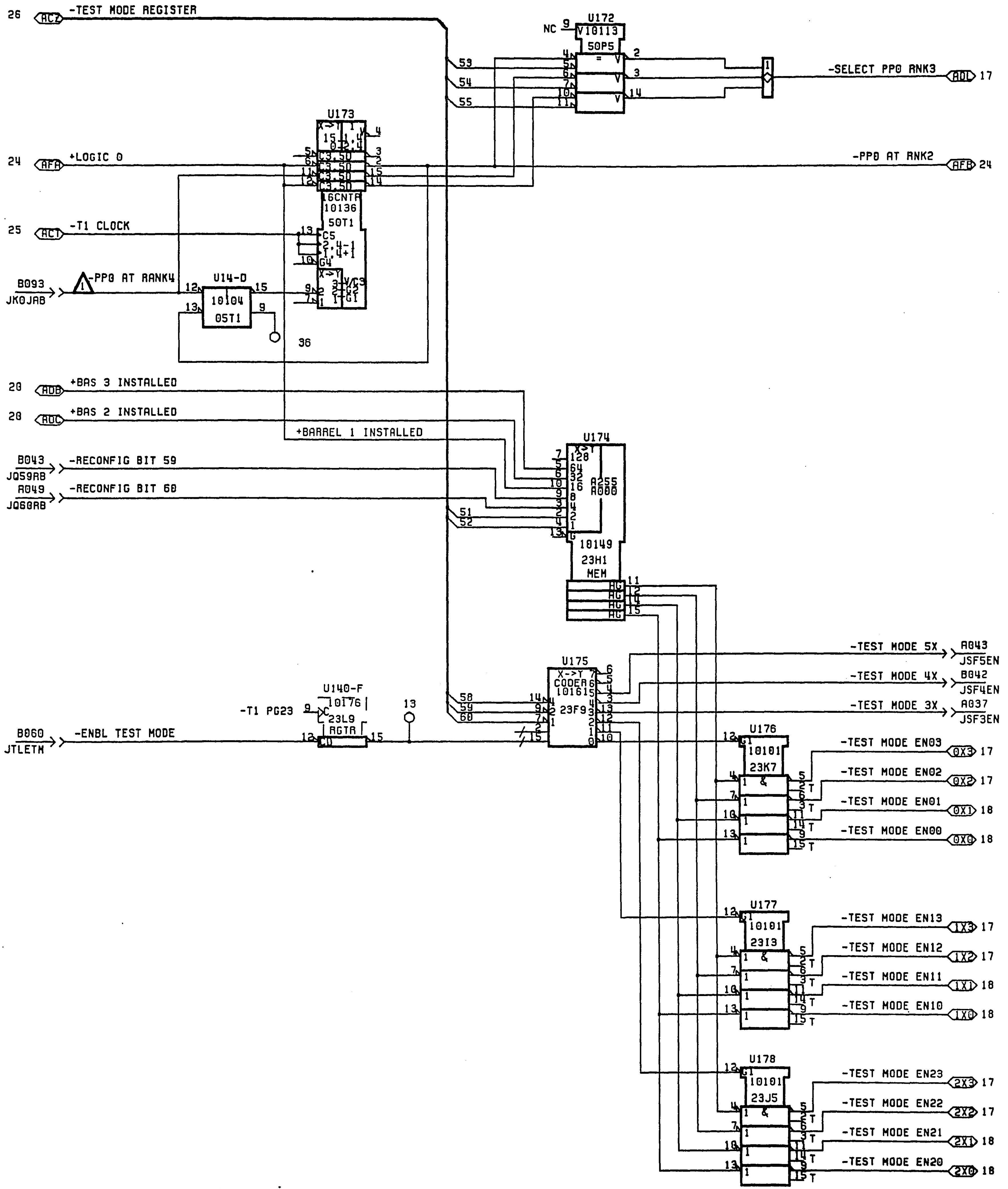
CONTROL DATA

MAINTENANCE REGISTER A
TEST MODE REGISTER
PP MEMORY ADDRESS REGISTER
TYPE 1JSH

B

DWG NO. 22130333
DATE 03/21/86
REV A
SHEET NO. 26
60462210
PAGE JS-26

SELECTED PP TO TIMED PULSE (3.6)



⚠ NOT TERMINATED

CONTROL DATA

MAINTENANCE REGISTER A
SELECTED PP TO TIMED PULSE

TYPE 1JSH

	DWG NO.	DATE	REV
B	22130333	03/21/86	A
SHEET NO. 27	60462210	PAGE JS-27	

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	22	-ENABLE MASK RD MUX	27	23	-READ MAC DATA
02	25	-T1 CLOCK	28	14	+CM DATA PE
03	24	-ENABLE MASK WRITE	29	15	+CORRECTABLE ERROR
04	26	+ENBL STROBE BYTE 2	30	23	+BOARD ERROR
05	26	+ENBL STROBE BYTE 1	31		
06	25	-LDS MASTER CLEAR	32		
07	12	+CORRECTABLE ERROR	33		
08	24	-ENA FS1,OI,TM DATA	34		
09	22	-READ MUX BIT 0	35		
10	19	-READ MUX BIT 6	36	27	+PP0 AT RANK 4
11	19	-READ MUX BIT 7	37	08	+MASK READ
12	17	-SELECT PP0 RANK 4	38	08	+MASK WRITE
13	27	-ENBL TEST MODE	39	06	+READ ENABLE ERROR
14	20	-READ MUX BIT 5	40	07	+WRITE ENABLE ERROR
15	20	-READ MUX BIT 4	41	15	+BAR ERR STOP RANK 4
16	24	-ENABLE WR PPM ADDR	42	16	+BARREL 0 MASK
17	21	-READ MUX BIT 3	43	16	+BARREL 1 MASK
18	21	+CHAN TYPE 2	44	16	+BARREL 2 MASK
19	23	+LD MUX BIT 0	45	16	+BARREL 3 MASK
20	24	-ENABLE MUX	46	05	+BARREL 0 ERROR
21	24	-ENABLE WRITE FS1	47	24	-ENABLE FS1 RD MUX
22	26	+ENABLE WRITE	48	05	+BARREL 2 ERROR
23	25	-IOU CLR ERROR	49	05	+BARREL 3 ERROR
24	24	-CLEAR ERROR	50	05	+BARREL 1 ERROR
25	23	+LOAD	51	24	-ENA OI,TM,RD MUX
26					

CONNECTOR PINS	
GND	A014,B014,A024,B024,A034,B034,A054,B054,A065,B065,A066,B066,A077,B077,A097,B097,A107,B107,A117,B117
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	NOT USED ON THIS PAK
TERM	NONE
UNUSED	ALL PINS ARE USED

CONTROL DATA

MAINTENANCE REGISTER A
TESTPOINTS & SIGNAL NAMES
AND CONNECTOR PINS
TYPE 1JSH

	DWG NO.	DATE	REV
B	22130393	08/26/86	B
N SHEET NO. 28	60462210	PAGE JS-28	

1JTH MAINTENANCE RGTR B BOARD

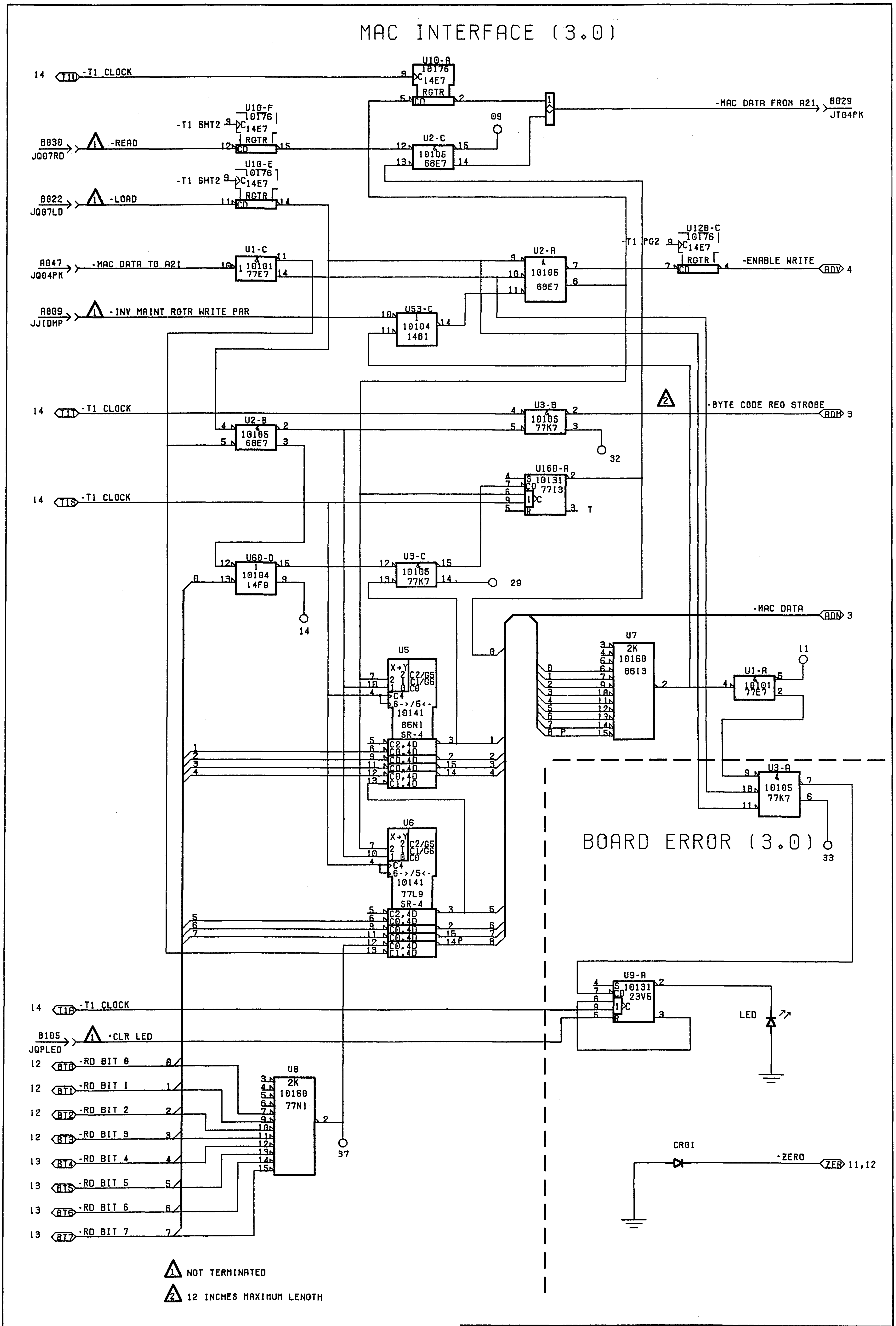
REVISION HISTORY B/M 41653501			
DATE	REV	DESCRIPTION OF CHANGE	INIT
11/01/85	A	CLASS A RELEASE OF LOGIC DIAGRAMS WITH	
		ECO'S 46877 AND 47428 INSTALLED	RVU
07/07/86	B	ECO #47746 ADDS B/M NO. TO SHT 1.	LHJ
08/26/86	C	ECO #47748 PAGES 2 & 16.	LHJ
01/12/87	D	ECO #48330 PAGE 8	
01/21/88	E	ECO #49505 DIAGRAM CHANGES TO SHT 2	

DWN	L H JOHNSON	11/01/85
CHKD	D R FORD	12/04/85
ENG	R V URNESS	12/09/85
PUBS	R K BONDE	12/09/85
APP	R V URNESS	12/09/85

NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

LOC: A21,D28

CONTROL DATA	MAINTENANCE RGTR B BOARD REVISION HISTORY TYPE 1JTH	B	DWG NO. 53575517	DATE 06/14/88	REV E
			SHEET NO. 1	60462210	PAGE JT-01



△1 NOT TERMINATED

△2 12 INCHES MAXIMUM LENGTH

CONTROL DATA

MAINTENANCE RGTR BOARD
MAC INTERFACE
and BOARD ERROR
TYPE 1JTH

B

DWG NO. 53575517

DATE 06/14/88

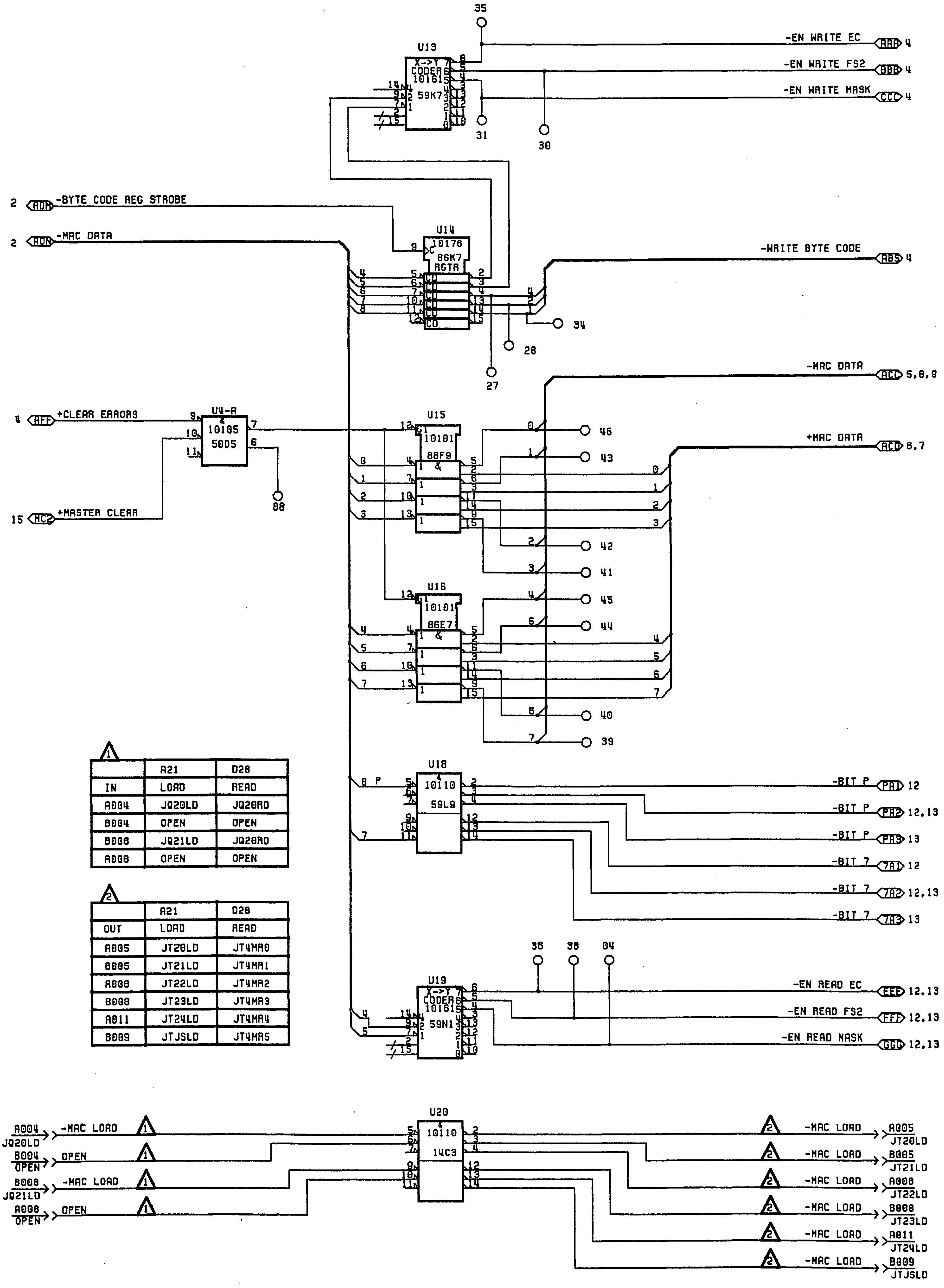
REV E

SHEET NO. 2

60462210

PAGE JT-02

MAC WRITE AND READ ENBLS (3.0)



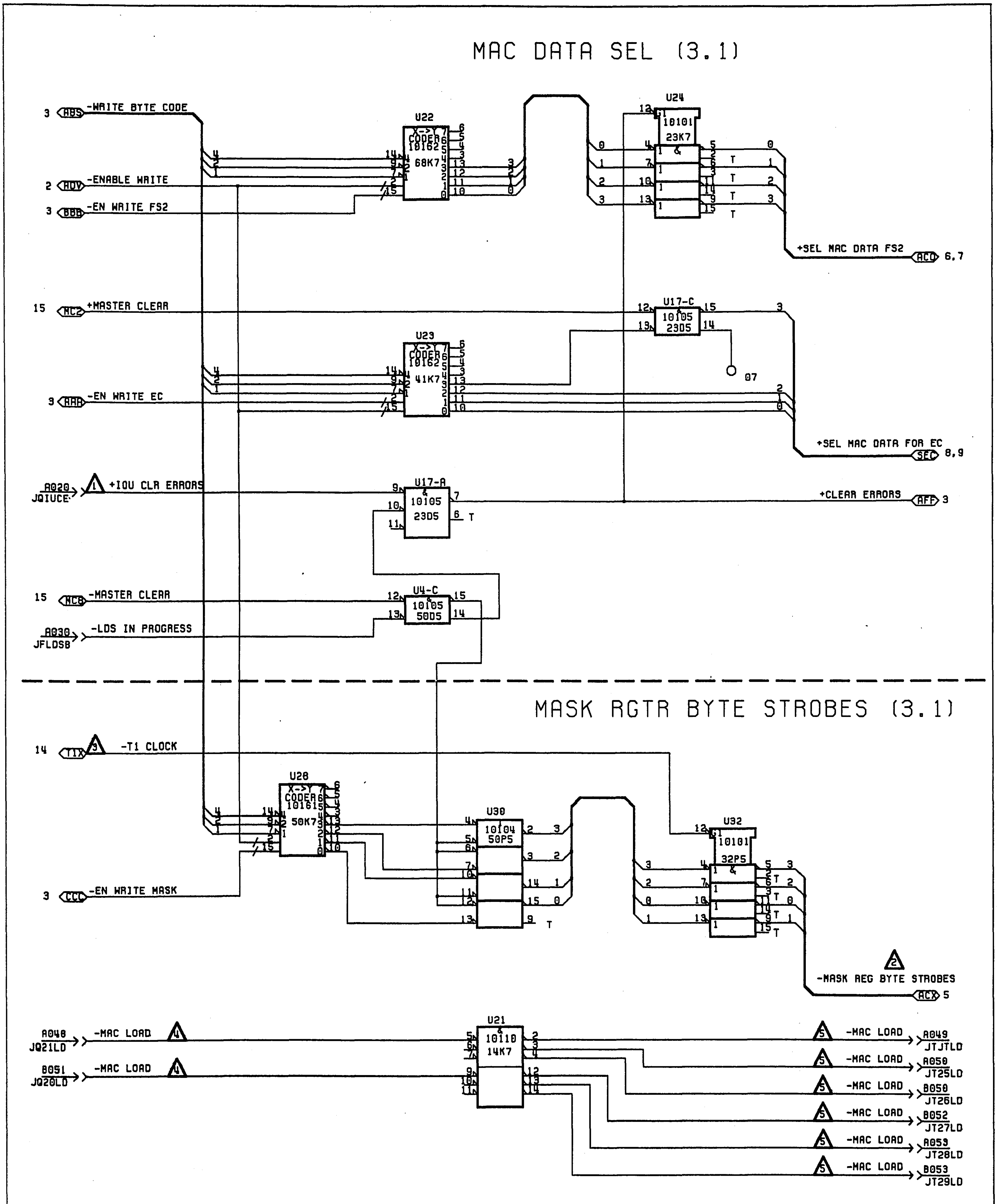
1

	A21	D28
IN	LOAD	READ
A004	JQ20LD	JQ20RD
B004	OPEN	OPEN
B006	JQ21LD	JQ20RD
A008	OPEN	OPEN

2

	A21	D28
OUT	LOAD	READ
A005	JT20LD	JT4MR0
B005	JT21LD	JT4MR1
A008	JT22LD	JT4MR2
B008	JT23LD	JT4MR3
A011	JT24LD	JT4MR4
B009	JTJSLD	JT4MR5

CONTROL DATA	MAINTENANCE AGTA BOARD MAC WRITE & READ ENABLES TYPE 1JTH	B	DWG NO. 53575517	DATE 11/01/85	REV A
		SHEET NO. 3	60462210	PAGE JT-09	



△1 NOT TERMINATED

△2 12 INCHES MAXIMUM LENGTH

△3 7 INCHES MAXIMUM LENGTH

△4

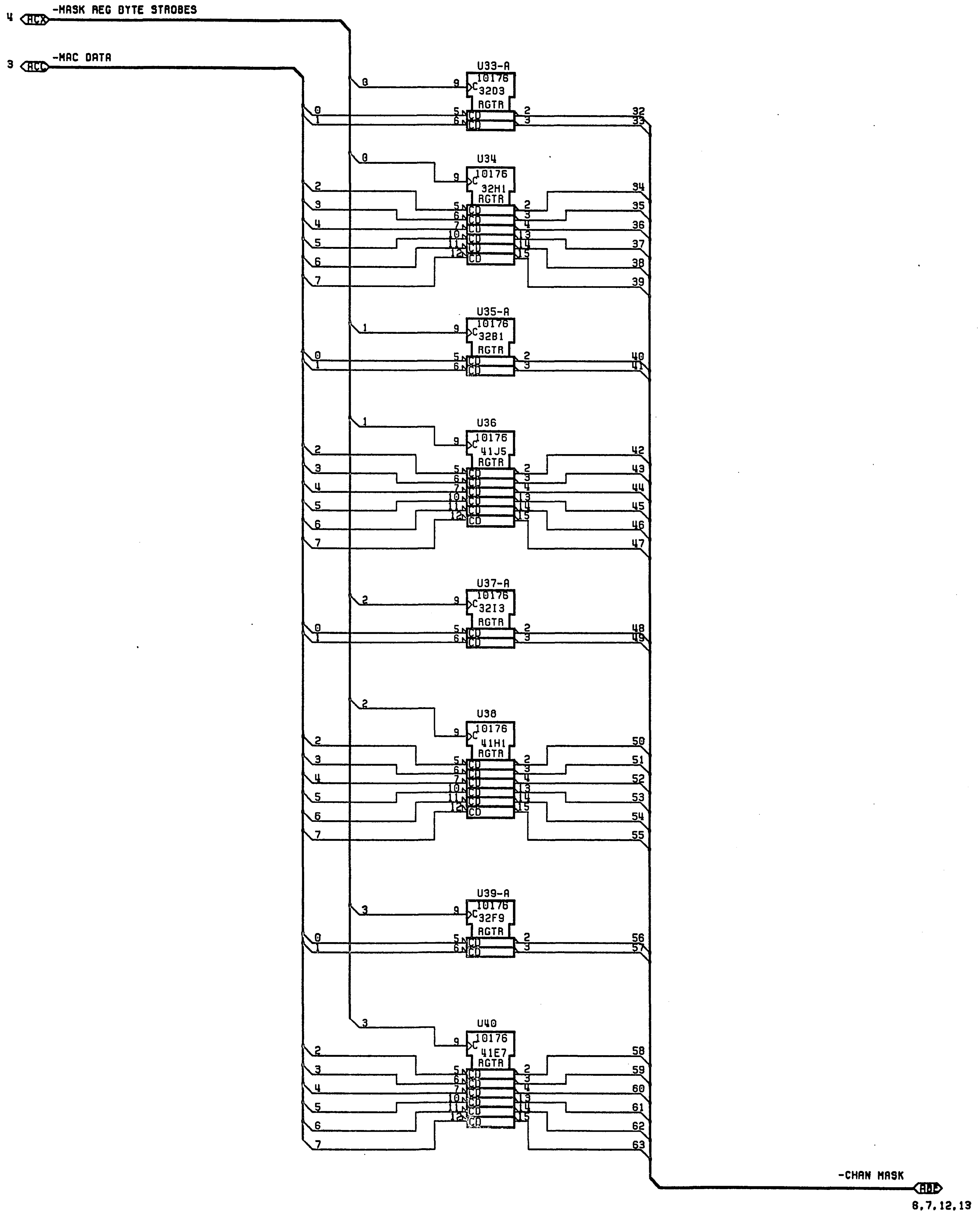
	A21	D28
IN	LOAD	READ
A048	JQ21LD	JQ21RD
B051	JQ20LD	JQ21RD

△5

	A21	D28
OUT	LOAD	READ
A049	JTJTLD	JT4MR6
A050	JT25LD	JT4MR7
B050	JT26LD	JT4MR8
B052	JT27LD	JT4MR9
A053	JT28LD	JT4MRA
B053	JT29LD	JT4MRB

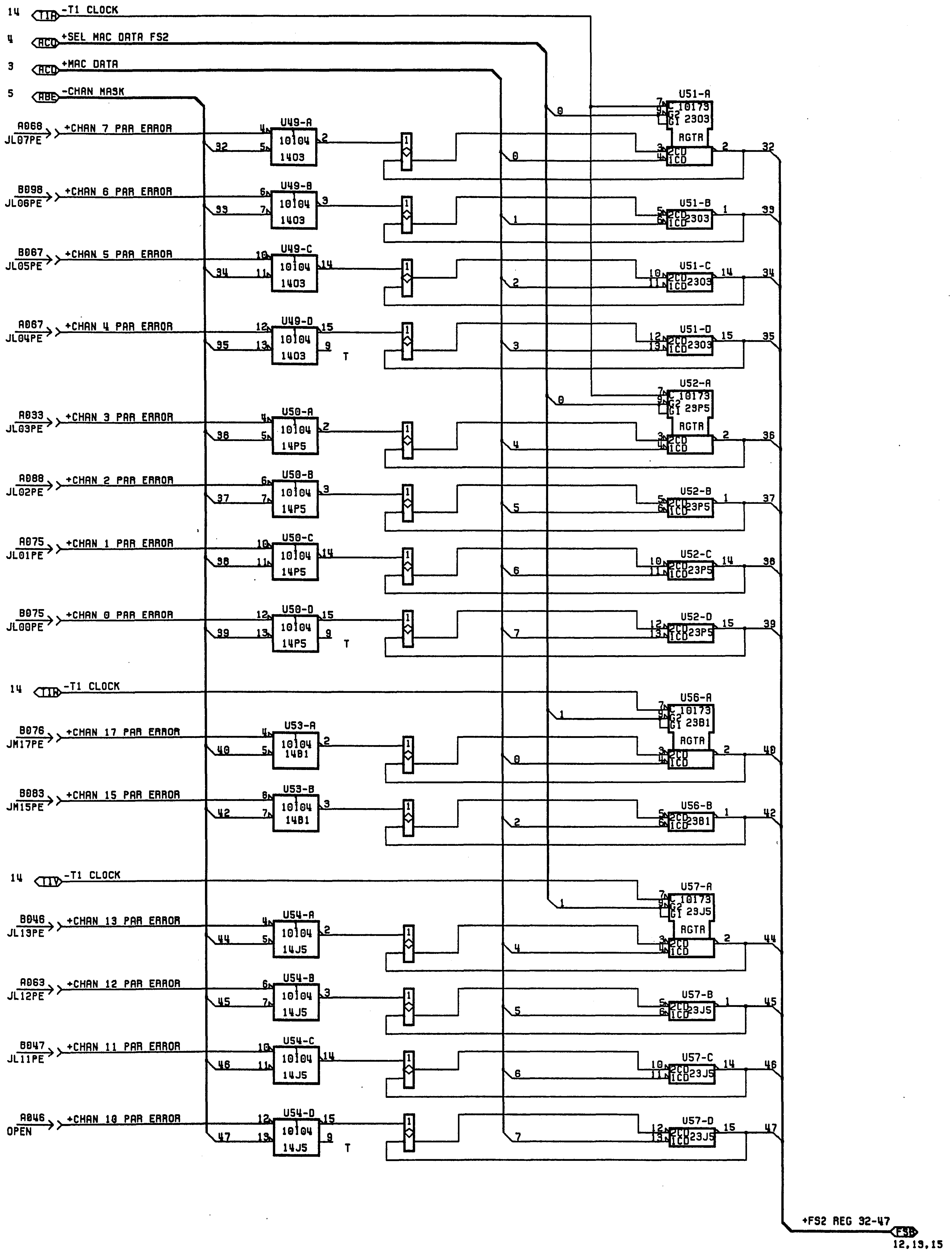
CONTROL DATA	MAINTENANCE RGTR BOARD MAC DATA SELECTS and MASK REGISTER BYTE STROBES TYPE 1JTH	B	DWG NO. 53575517	DATE 11/01/85	REV A
		N	SHEET NO. 4	PN 60462210	PAGE JT-04

FAULT STATUS MASK RGTR (3.1)



CONTROL DATA	MAINTENANCE RGTR BOARD FAULT STATUS MASK REGISTER TYPE 1JTH	B	DWG NO. 53575517		DATE 11/01/85	REV A
		SHEET NO. 5	60462210		PAGE JT-05	

FAULT STATUS 2 RGTR (3.1)
BITS 32-47

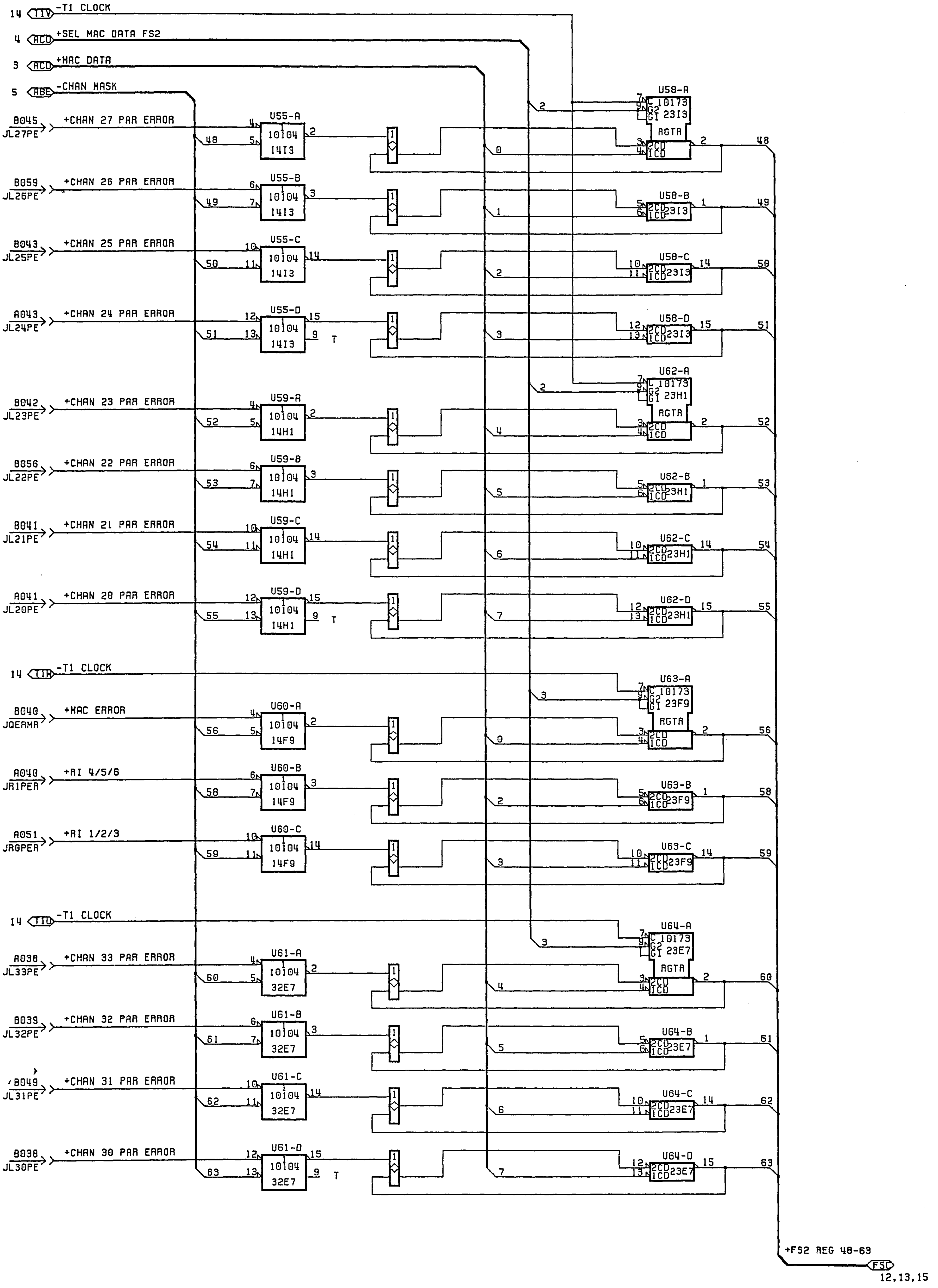


CONTROL DATA

MAINTENANCE RGTR BOARD
FAULT STATUS 2 REG
BITS 32 - 47
TYPE 1JTH

B	DWG NO. 53575517	DATE 11/01/85	REV A
SHEET NO. 6	60462210	PAGE JT-08	

FAULT STATUS 2 RGTR (3.1)
BITS 48 - 63

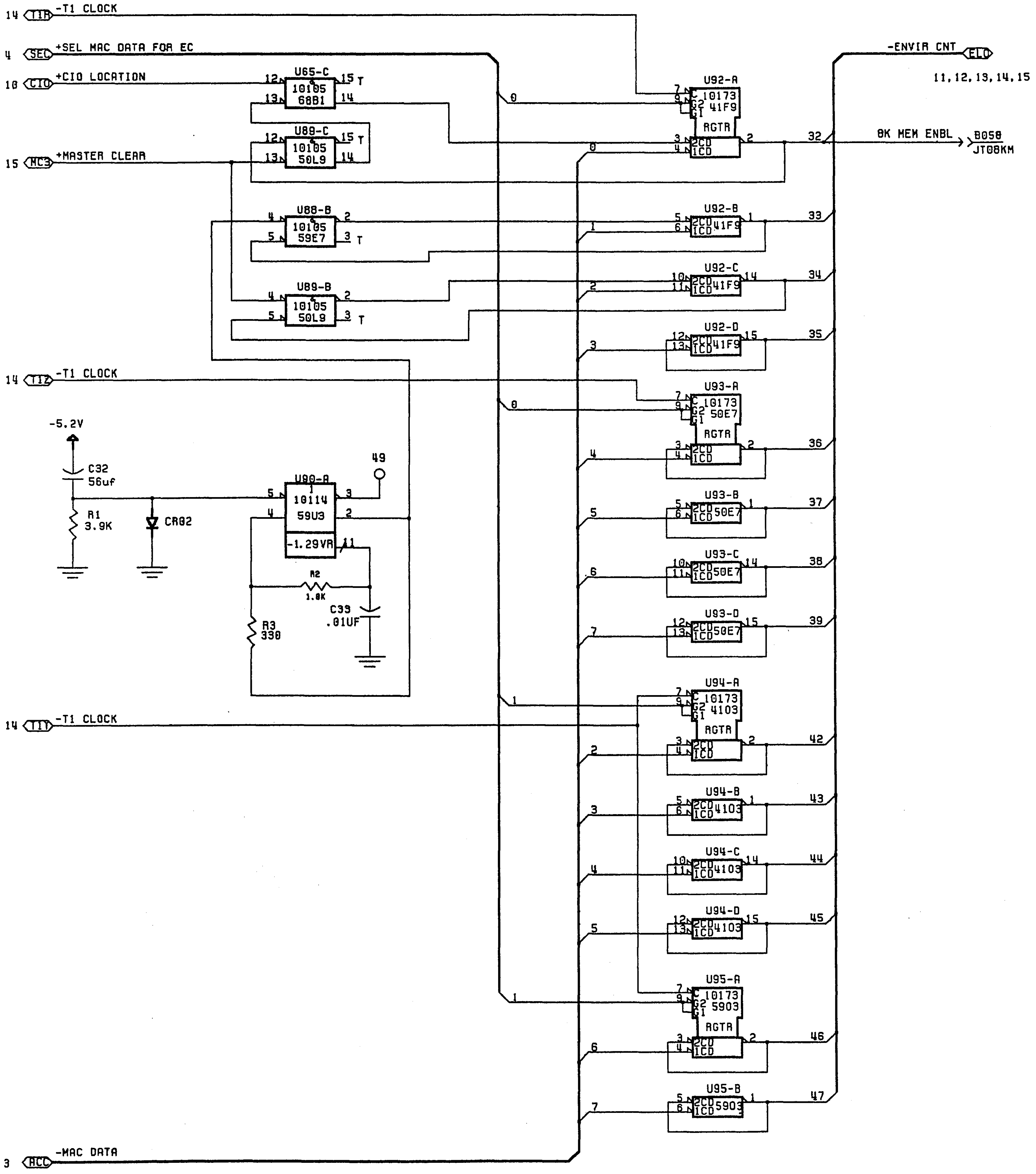


CONTROL DATA

MAINTENANCE RGTR BOARD
FAULT STATUS 2 REG
BITS 48 - 63
TYPE 1JTH

B	DWG NO. 53575517	DATE 11/01/85	REV A
N	SHEET NO. 7	60462210	PAGE JT-07

EC RGTR (3.2)



CONTROL DATA

MAINTENANCE RGTR BOARD
ENVIRONMENTAL CONTROL REG
TYPE 1JTH

B

DWG NO. 53575517

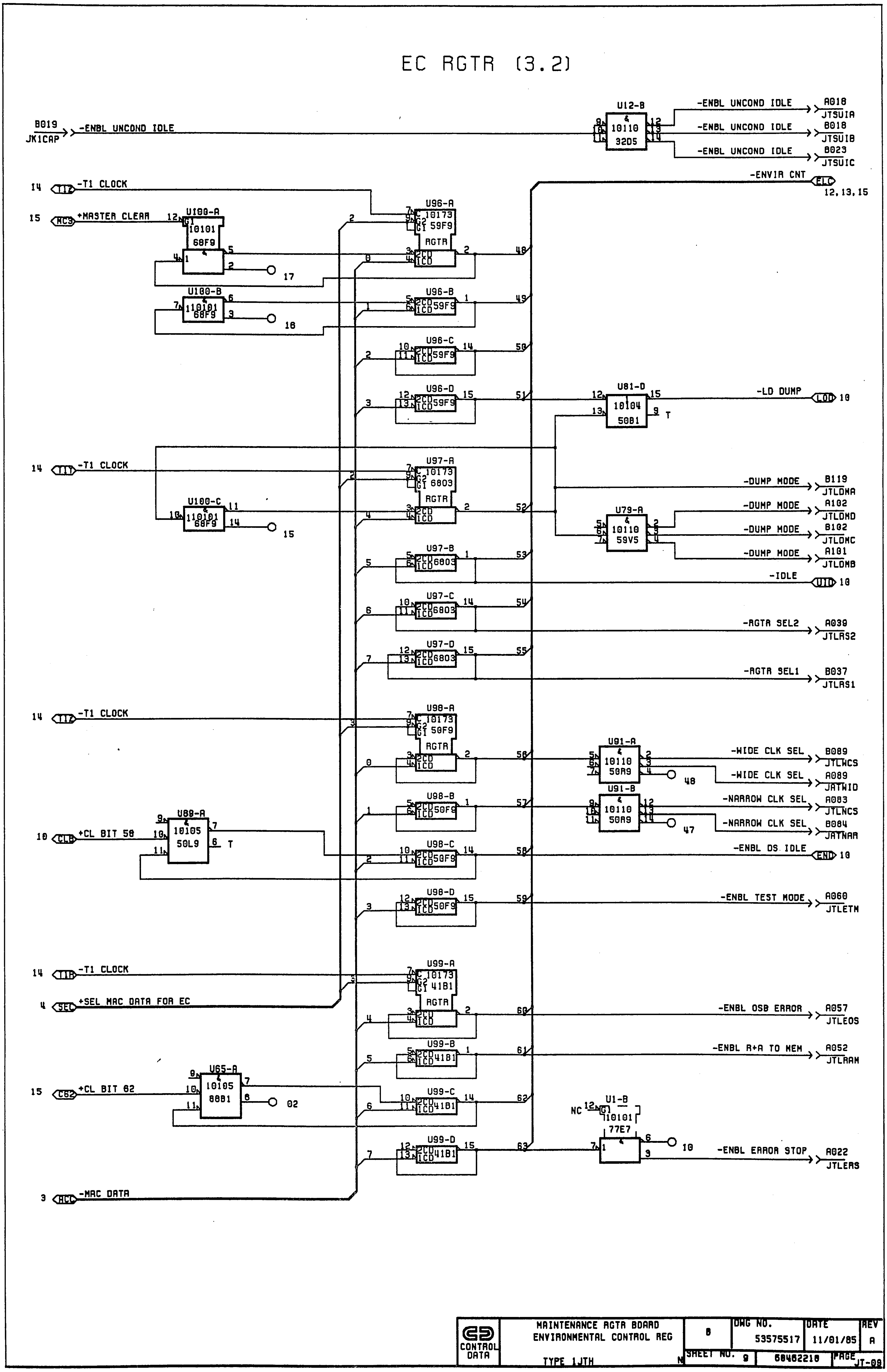
DATE 01/12/87

REV D

N SHEET NO. 8

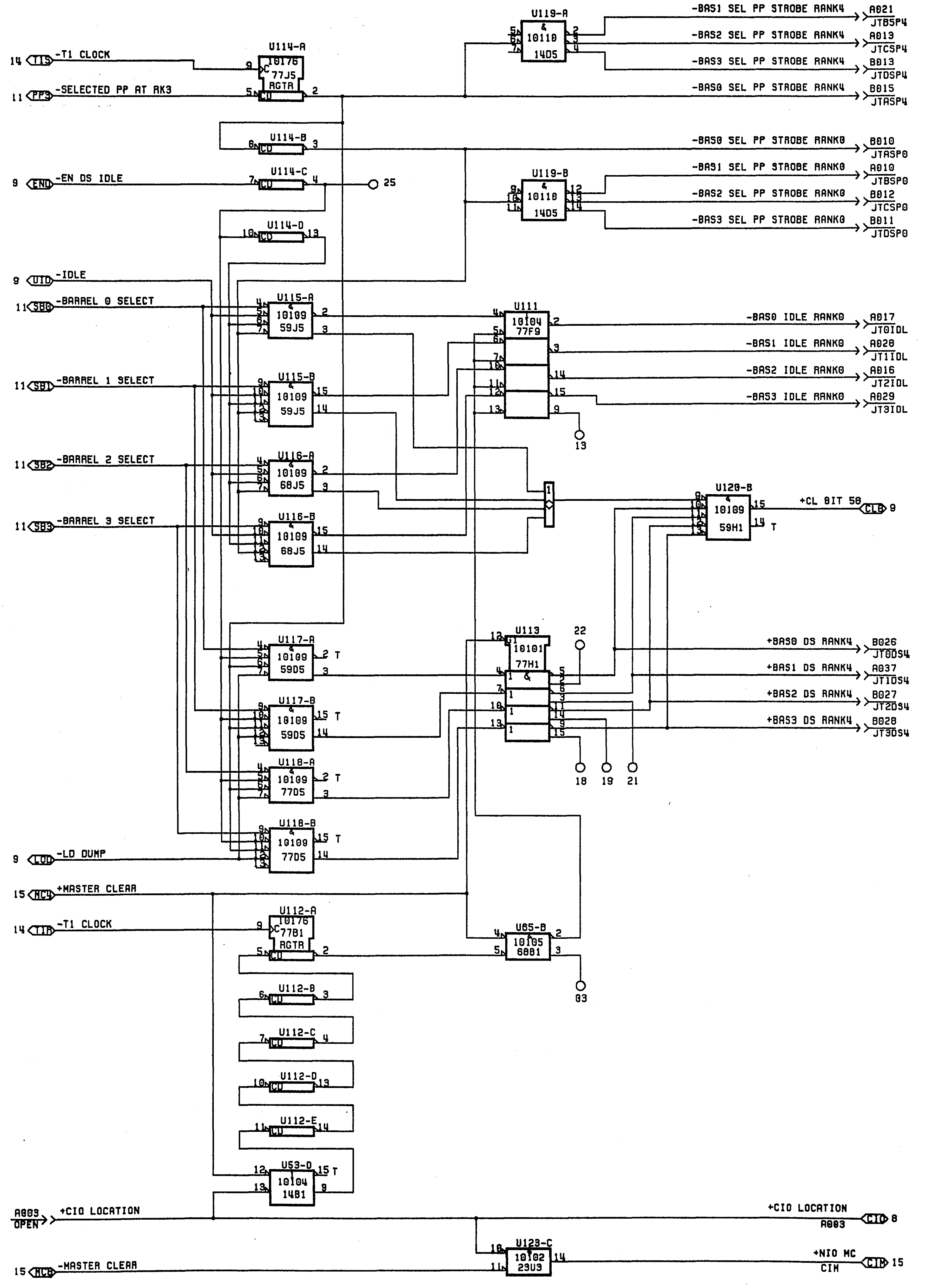
60462210

PAGE JT-08

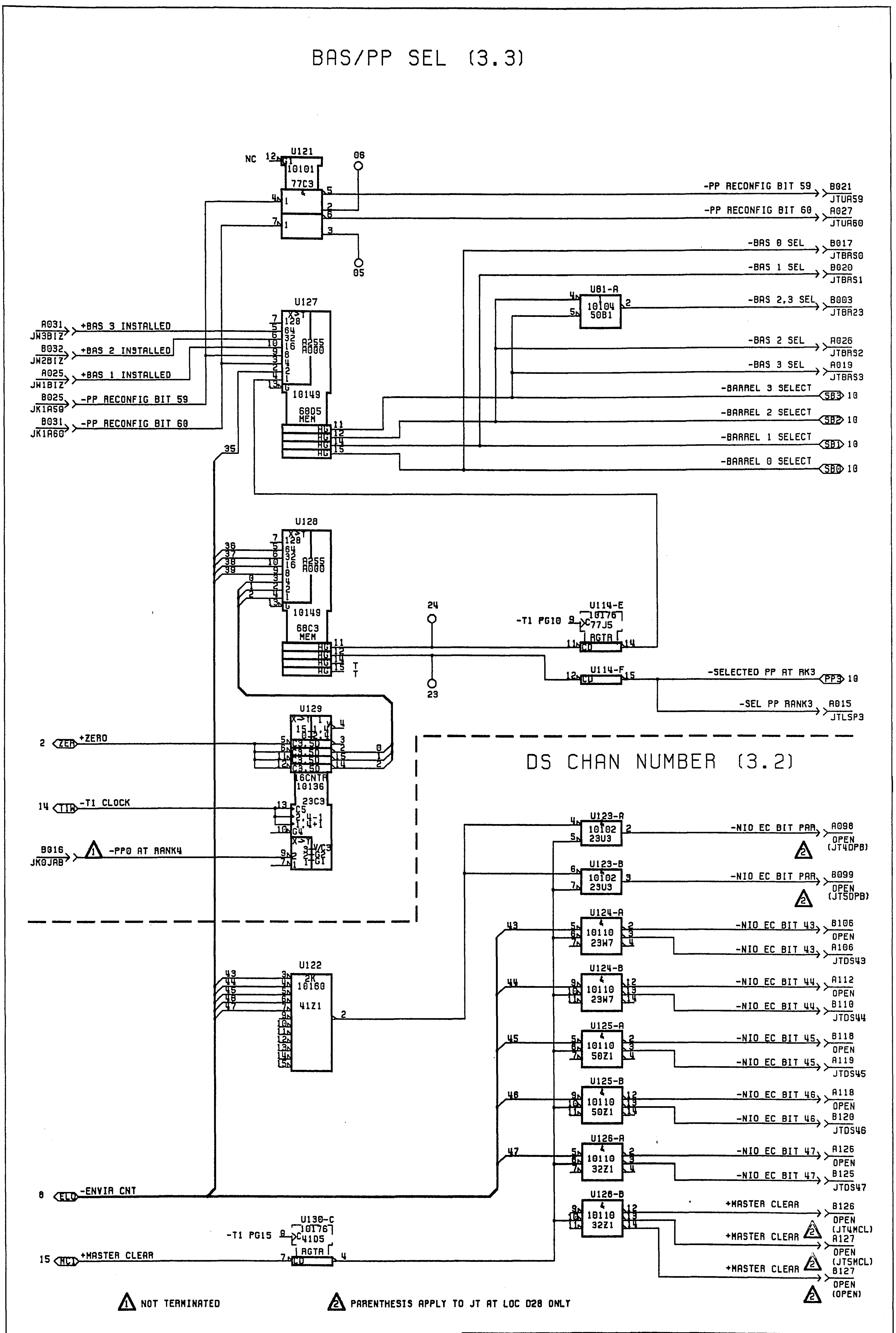


CONTROL DATA	MAINTENANCE RGTR BOARD ENVIRONMENTAL CONTROL REG TYPE 1JTH	8	DWG NO. 53575517	DATE 11/01/85	REV A
		SHEET NO. 9	60462210	PAGE JT-09	

RANK SYNC (3.3)

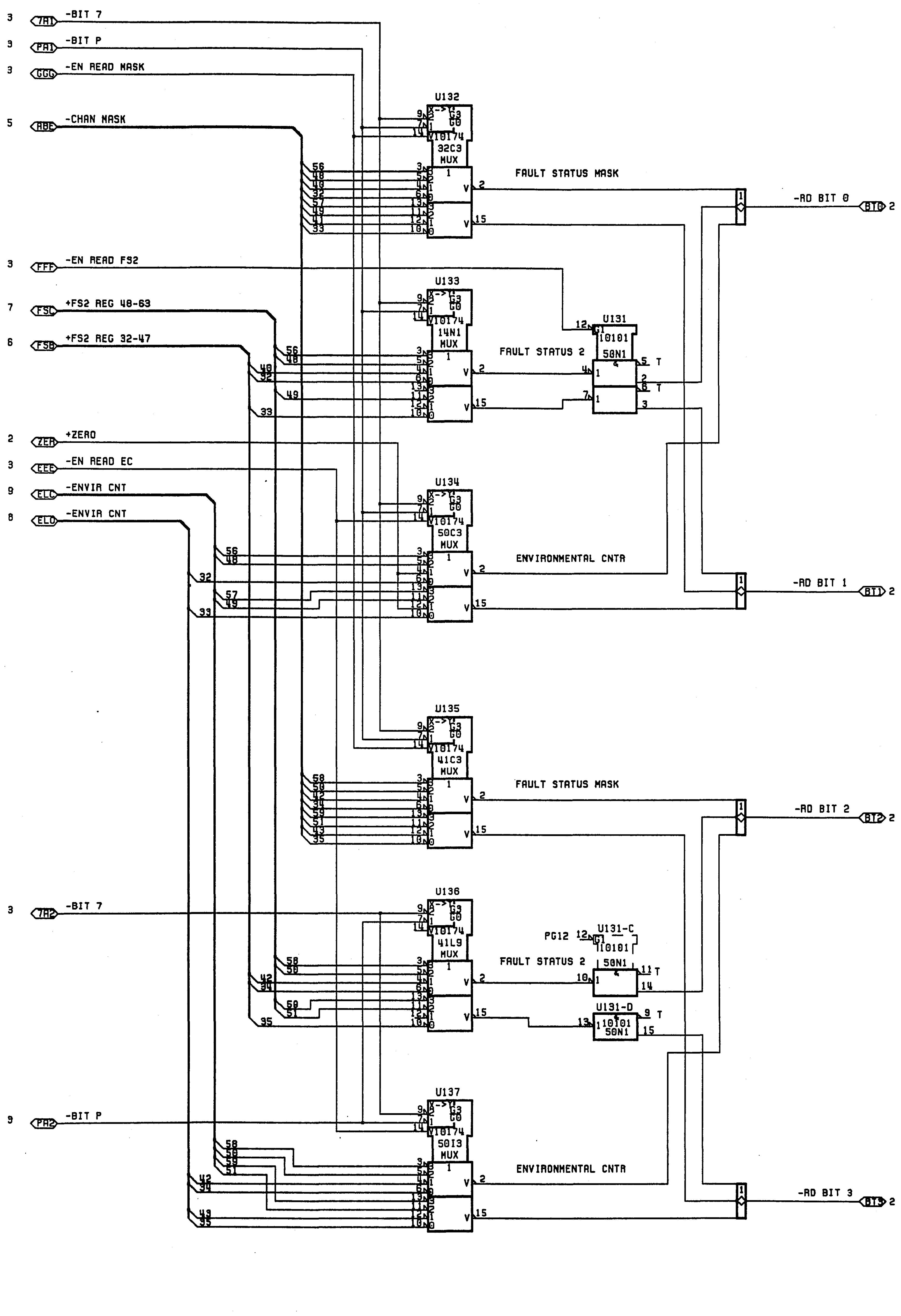


	MAINTENANCE RGTR BOARD RANK SYNC	8	DWG NO. 53575517	DATE 11/01/85	REV A
CONTROL DATA	TYPE 1JTH	N	SHEET NO. 10	60462210	PAGE JT-10



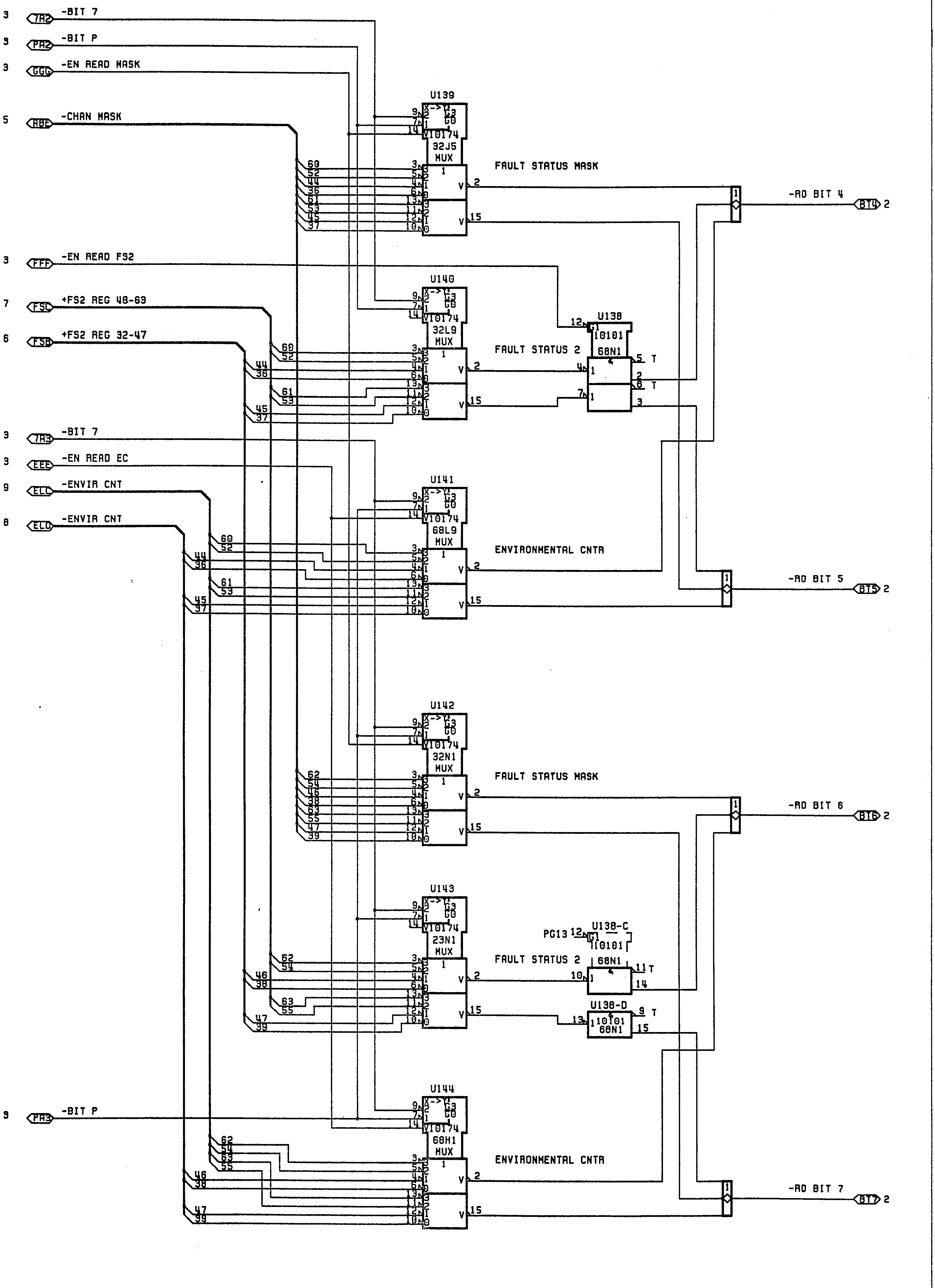
CONTROL DATA	MAINTENANCE AGTA BOARD BARREL/PP SELECT DS CHAN NUMBER TYPE 1JTH	B	DWG NO. 53575517	DATE 11/01/85	REV A
		SHEET NO. 11	60462210	PAGE JT-11	

READ MUX BITS 0-3 (3.0)



CONTROL DATA	MAINTENANCE RGTR BOARD READ MUX BITS 0 - 3 TYPE 1JTH	B	DWG NO. 53575517		DATE 11/01/85	REV A
		SHEET NO. 12		60462210	PAGE JT-12	

READ MUX BITS 4-7 (3.0)

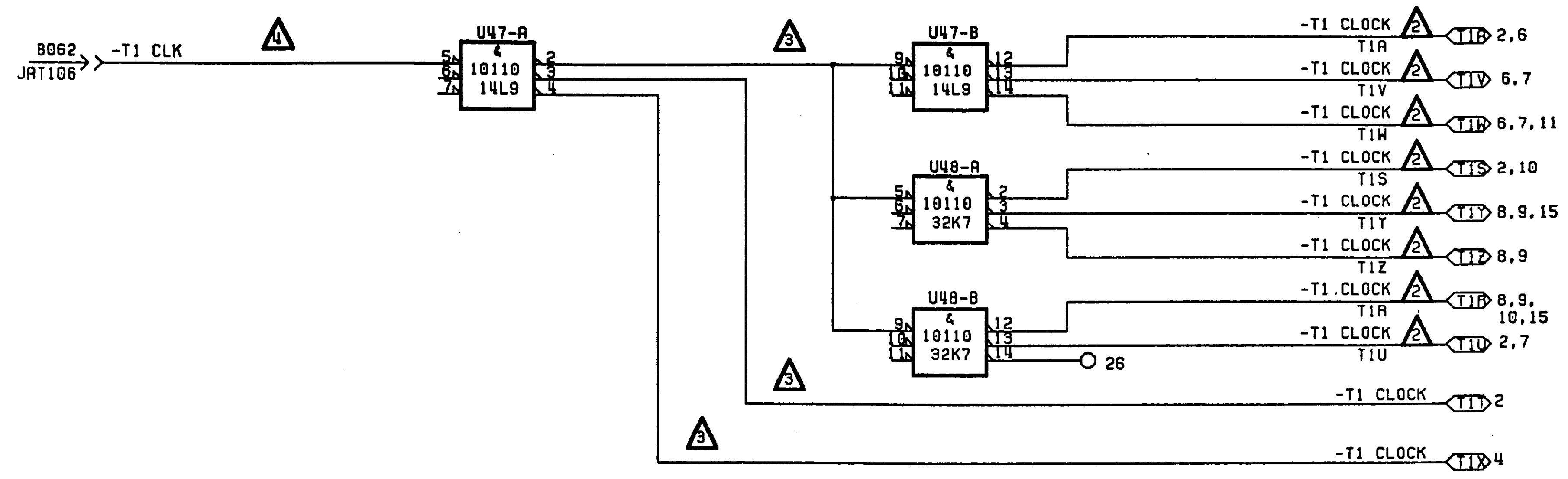


CONTROL DATA

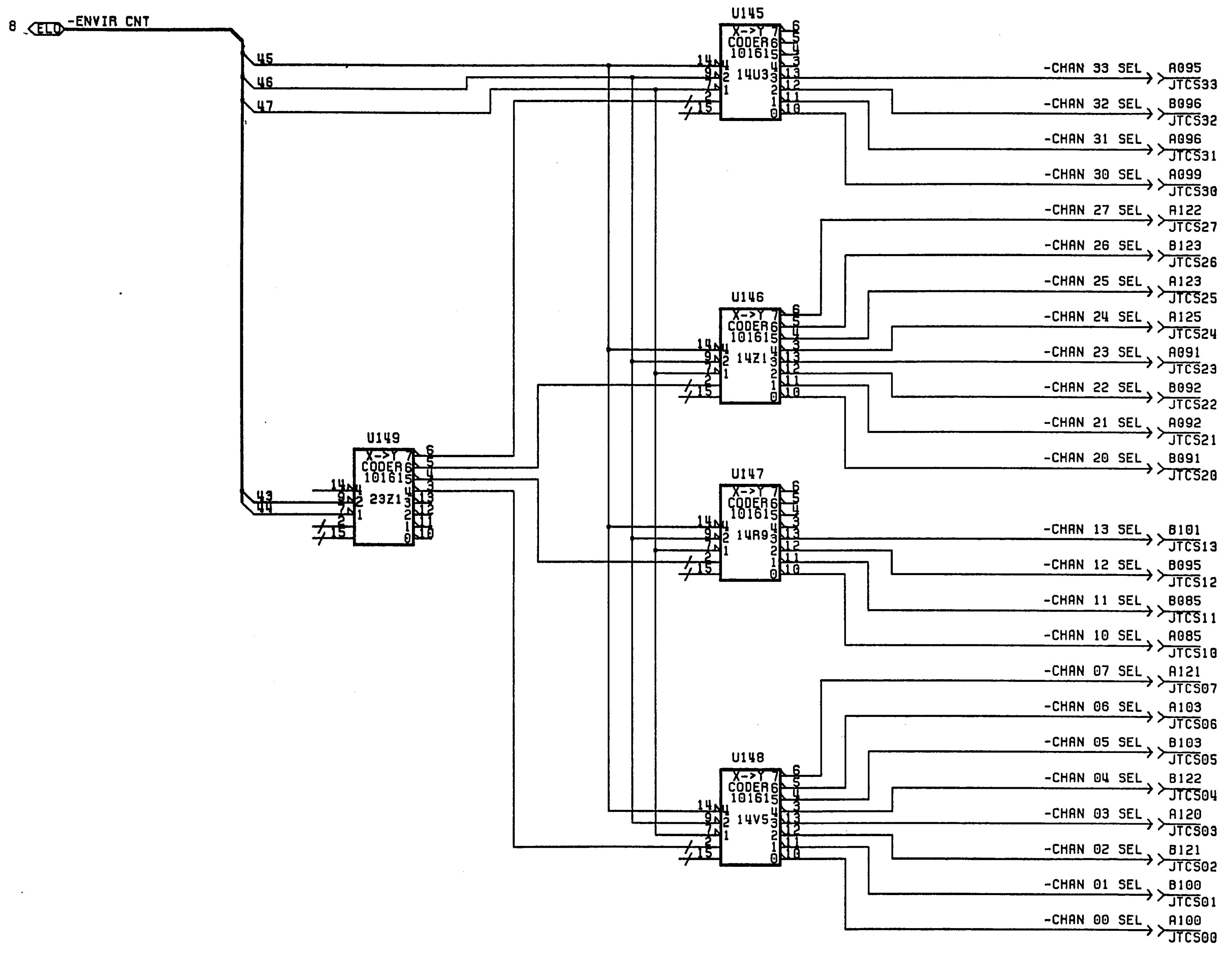
MAINTENANCE AGTR BOARD
READ MUX BITS
4 - 7
TYPE 1JTH

B	DWG NO.	DATE	REV
	53575517	11/01/85	A
SHEET NO. 13	60462210	PAGE JT-19	

T1 CLK F/O



CHAN TYPE CODE SELS (3.2)



△2 12 INCHES MAXIMUM

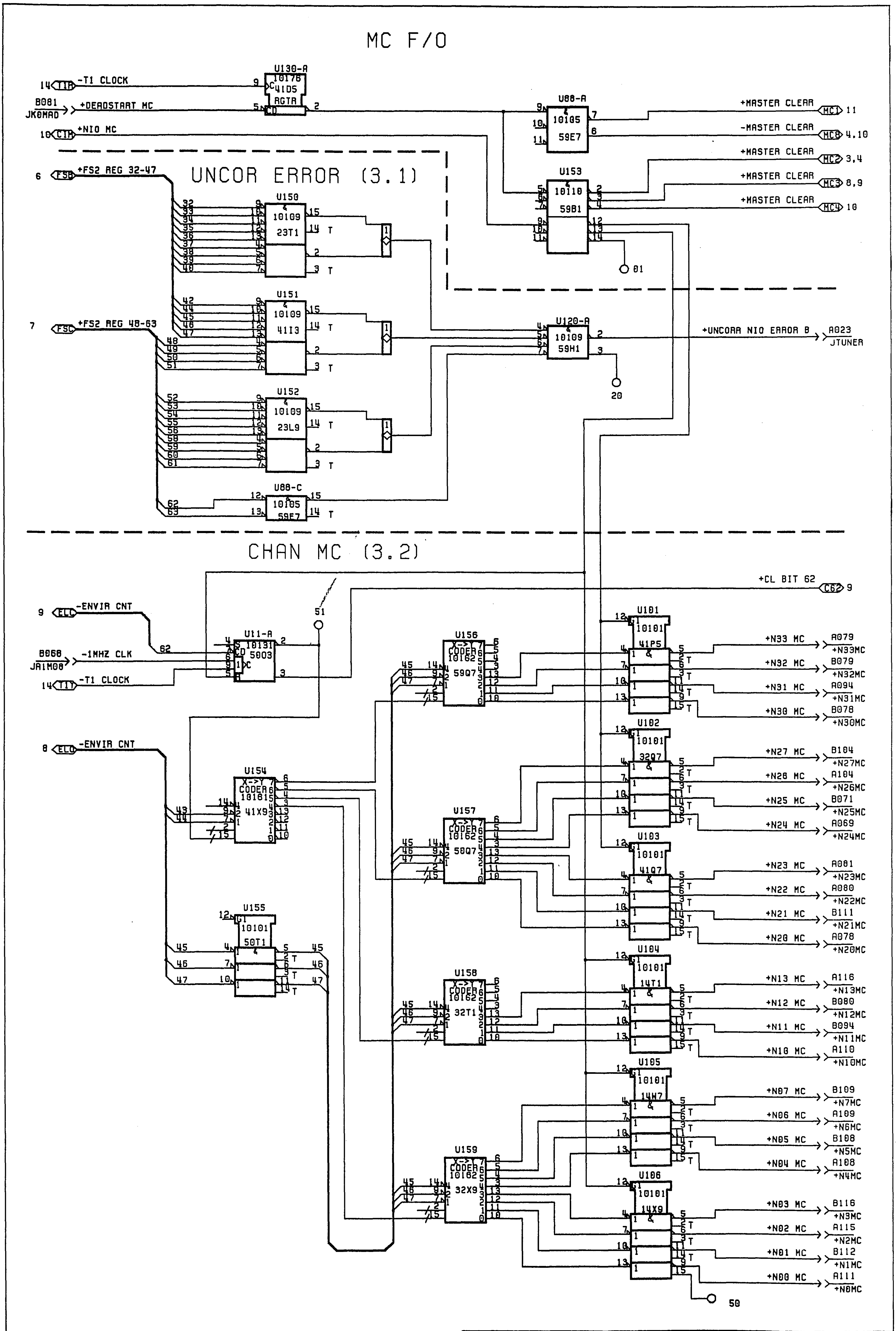
△3 7 INCHES MAXIMUM

△4 4 INCHES MAXIMUM

CONTROL DATA

MAINTENANCE AGTA BOARD
T1 CLOCK FANOUTS
and CHANNEL SELECTS
TYPE 1JTH

B	DWG NO. 53575517		DATE 11/01/85	REV A
SHEET NO. 14	60462210		PAGE JT-14	



CONTROL DATA	MAINTENANCE AGTA BOARD UNCORRECTED ERROR MC FANOUT AND CHANNEL MC TYPE 1JTH	B	DWG NO. 53575517	DATE 11/01/85	REV A
		N	SHEET NO. 15	60462210	PAGE JT-15

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	15	+DEADSTART M/C	27	03	-WRITE BC SEL 4
02	09	+EC RGTR BIT 62	28	03	-WRITE BC SEL 2
03	10	+IDLE ALL CIO BAS	29	02	+READ DATA
04	03	-ENBL READ MASK	30	03	-ENBL WRITE FS2
05	11	+PP RECONF BIT 60	31	03	-ENBL WRITE MASK
06	11	+PP RECONF BIT 59	32	02	+BC RGTR STROBE
07	04	-SEL EC BYTE 7	33	02	+WRITE DATA PAR ERR
08	03	-RESET MAC DATA	34	03	-WRITE BC SEL 1
09	02	-READ DATA	35	03	-ENBL WRITE EC
10	09	+ENBL ERROR STOP	36	03	-ENBL READ EC
11	02	+MAC DATA PAR ERR	37	02	-READ DATA PAR BIT
12			38	03	-ENBL READ FS2
13	10	+BAS 3 IDLE RANK 0	39	03	-MAC DATA BIT 7
14	02	+READ BIT 0	40	03	-MAC DATA BIT 6
15	09	+EC RGTR BIT 52	41	03	-MAC DATA BIT 3
16	09	+EC RGTR BIT 49	42	03	-MAC DATA BIT 2
17	09	+EC RGTR BIT 48	43	03	-MAC DATA BIT 1
18	10	-BAS 3 DS RANK 4	44	03	-MAC DATA BIT 5
19	10	-BAS 2 DS RANK 4	45	03	-MAC DATA BIT 4
20	15	-UNCOR ERROR	46	03	-MAC DATA BIT 0
21	10	-BAS 1 DS RANK 4	47	09	-NARROW CLK SEL
22	10	-BAS 0 DS RANK 4	48	09	-WIDE CLK SEL
23	11	-SEL PP AT RANK 3	49	08	-CLR EC BIT 33
24	11	-SEL ODD BAS	50	15	-NIO CHAN 0 M/C
25	10	-ENBL DS IDLE	51	15	-M/C INDIVID CHAN
26	14	-T1 CLK			

CONNECTOR PINS	
GND	A014,B014,A024,B024,A034,B034,A054,B054,A065, B065,A066,B066,A077,B077,A097,B097,A107, B107,A117,B117,A037,A038,B037,B038,B128
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	A061,B061,A070,B070
TERM	NONE
UNUSED	A012,A032,B033,A035,B035,A036,B036,A042,A045, B048,A055,B055,A056,B057,A058,A059,B060,A062, B063,A064,B064,B069,A071,A072,B072,A073,B073, A074,B074,A076,A082,B082,A084,A086,B086,B088, A090,B090,A093,B093,A105,A113,B113,A114,B114, B115,A128,B128

CONTROL DATA	MAINTENANCE RGTR BOARD TESTPOINTS & SIGNAL NAMES AND CONNECTOR PINS TYPE 1JTH	B	DWG NO. 53575517	DATE 08/26/86	REV C
	N	SHEET NO. 16	60462210	PAGE JT-16	

1CQ0

REVISION HISTORY		
DATE	REV	DESCRIPTION OF CHANGE
11/01/85	A	CLASS A RELEASE OF LOGIC DIAGRAMS
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DWN	L H JOHNSON	11/01/85
CHKD		
ENG		
MFG		
APP		

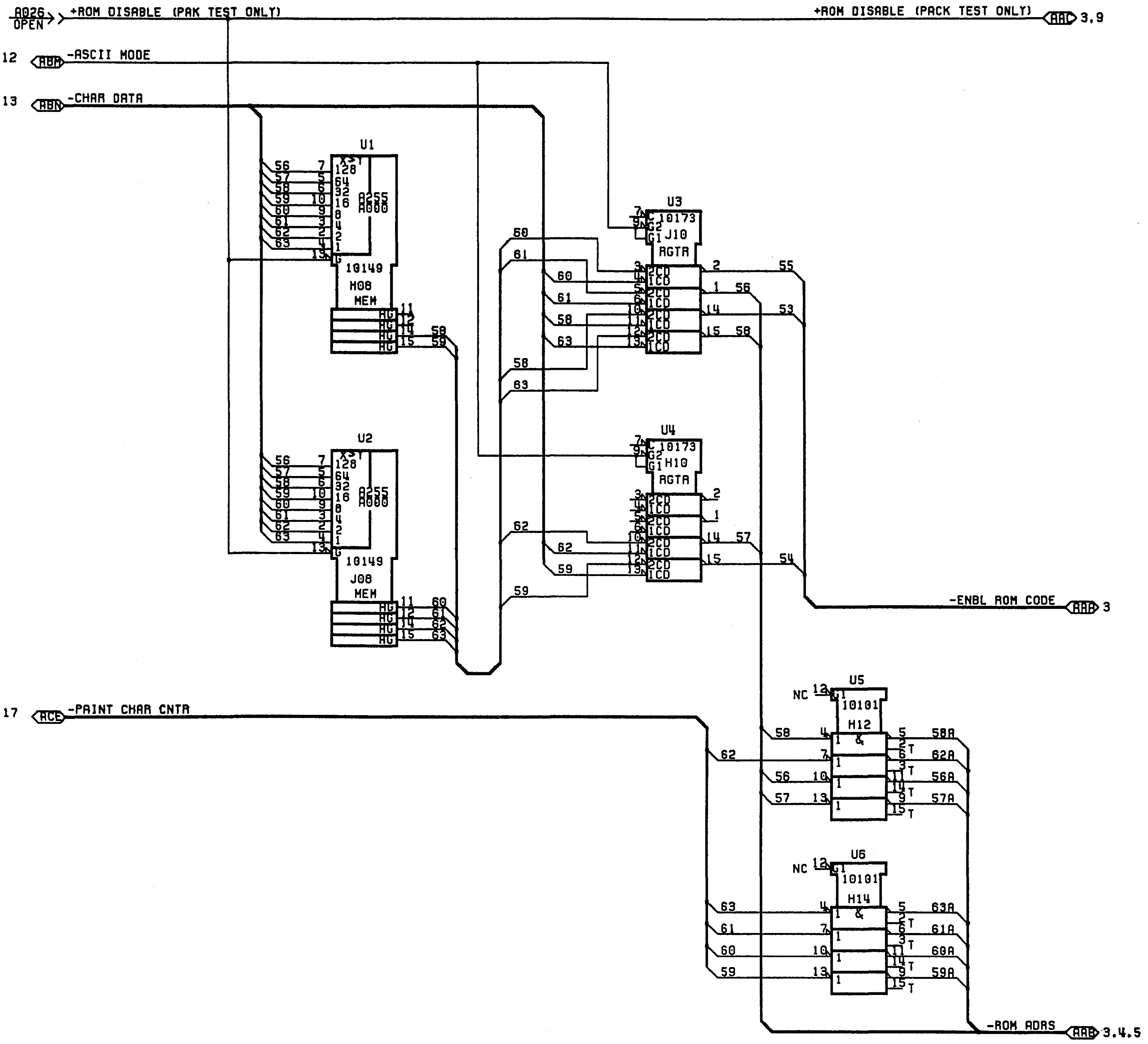
NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

LOC: B22

CONTROL DATA	REVISION HISTORY	B	DWG NO. 19268920	DATE 11/01/85	REV A
	TYPE 1CQ0	N	SHEET NO. 1	60462210	PAGE CQ-01

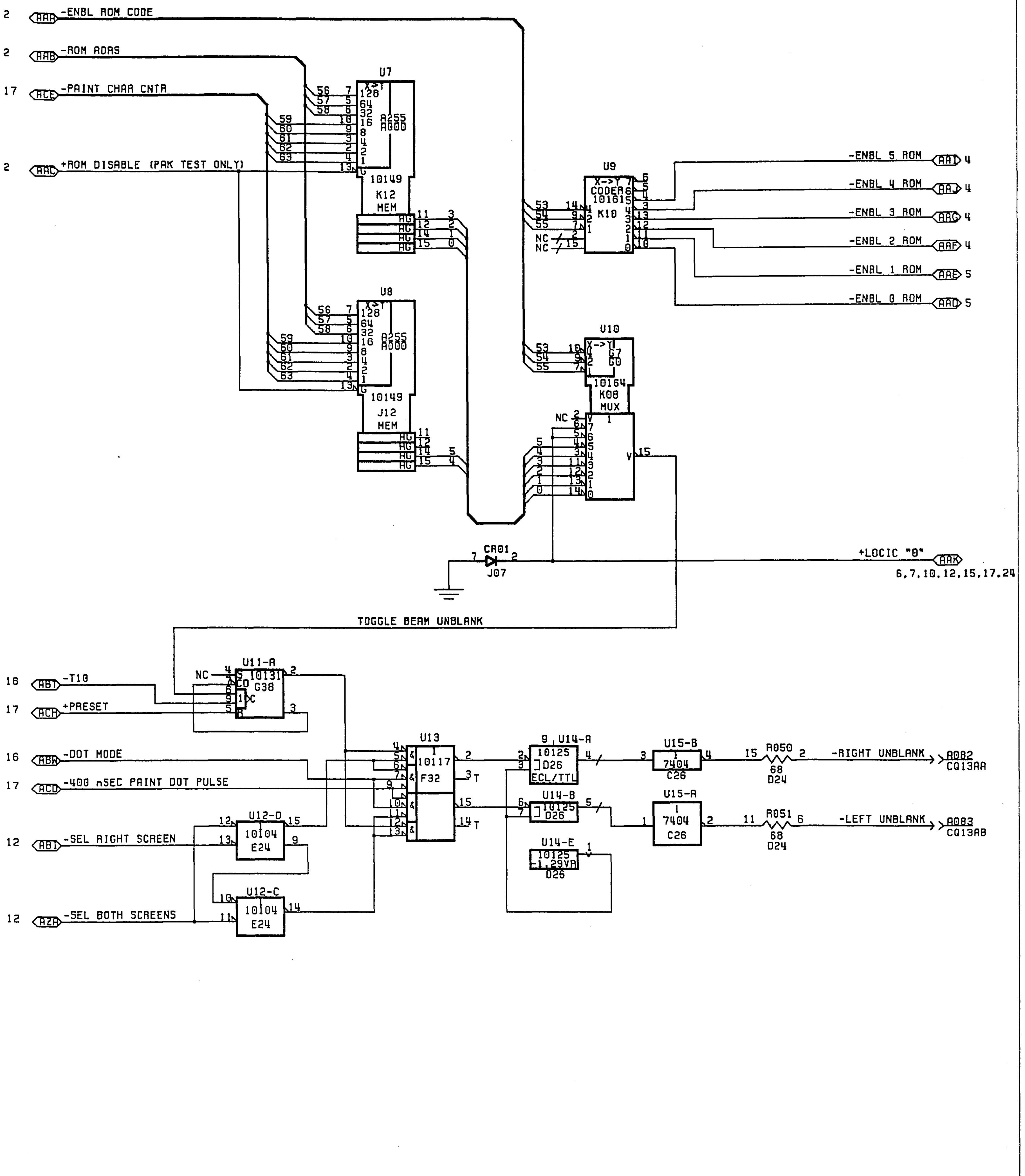
ASCII TO DISPLAY CODE CONVR

1	DISPLAY CODE CONVERSION BITS 58-63
0	CHAR DATA BITS 58-63



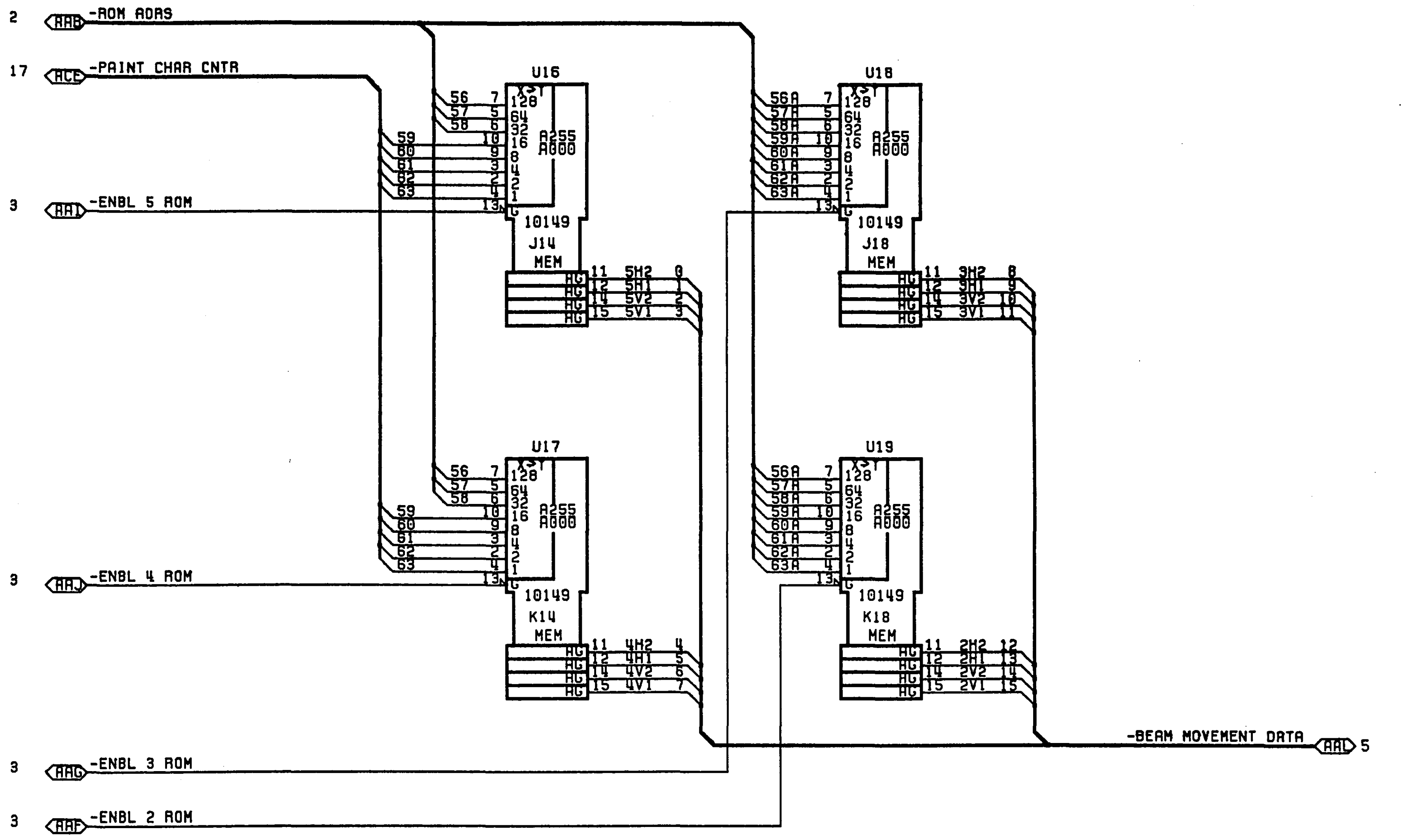
CONTROL DATA	ASCII TO DISPLAY CODE CONVERTER & ADRS F/O TYPE 1CQD	B	DWG NO. 19268920	DATE 11/01/85	REV A
		SHEET NO. 2	60462210	PAGE CQ-02	

UNBLANK ROMS



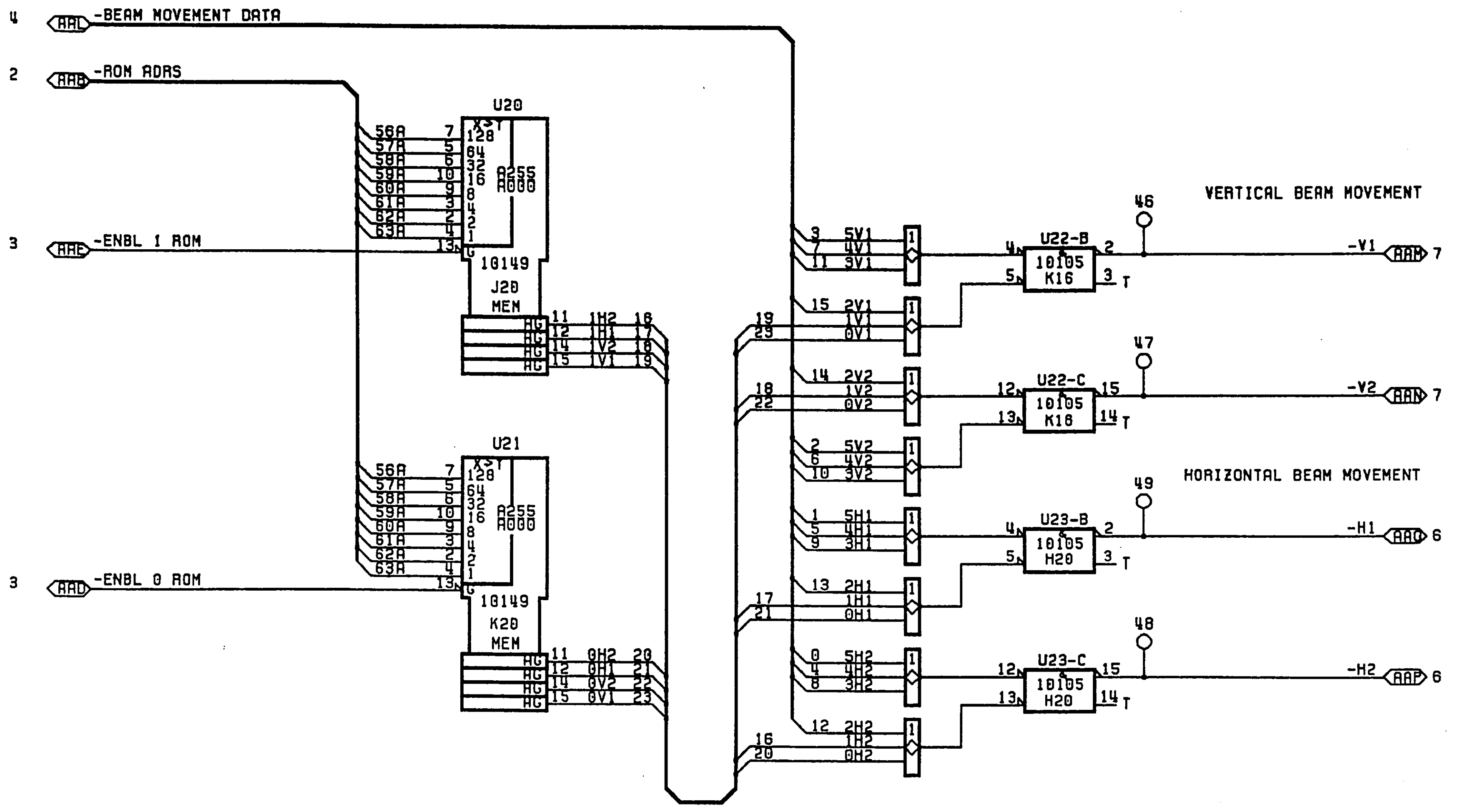
CONTROL DATA	UNBLANK ROM AND ROM ENBL DCDR TYPE 1CQ0	B	DWG NO. 19268920	DATE 11/01/85	REV A
		SHEET NO. 3	60462210	PAGE CQ-09	

ROMS DISPLAY CODE 20-57



CONTROL DATA	BEAM MOVEMENT ROMS FOR DISPLAY CODE 20-57 CHAR TYPE 1CQ0	B	DWG NO. 19268920	DATE 11/01/85	REV A
		SHEET NO. 4	60462210	PAGE CQ-04	

ROMS DISPLAY CODE 0-17



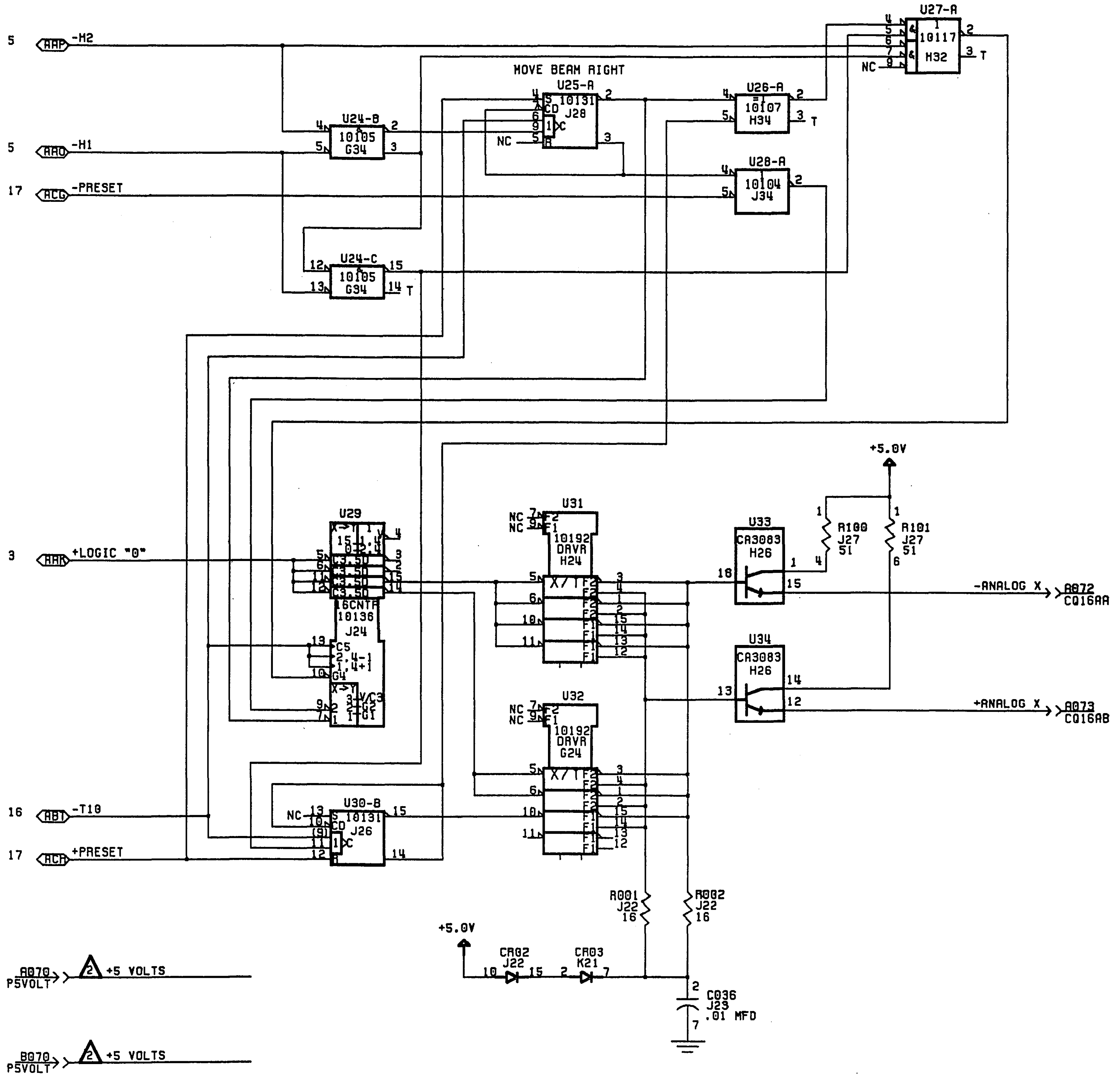
CONTROL DATA

BEAM MOVEMENT ROMS FOR
DISPLAY CODE 0-17 CHAR

TYPE 1CQD

B	DWG NO. 19260920	DATE 11/01/85	REV A
SHEET NO. 5	60462210	PAGE CQ-05	

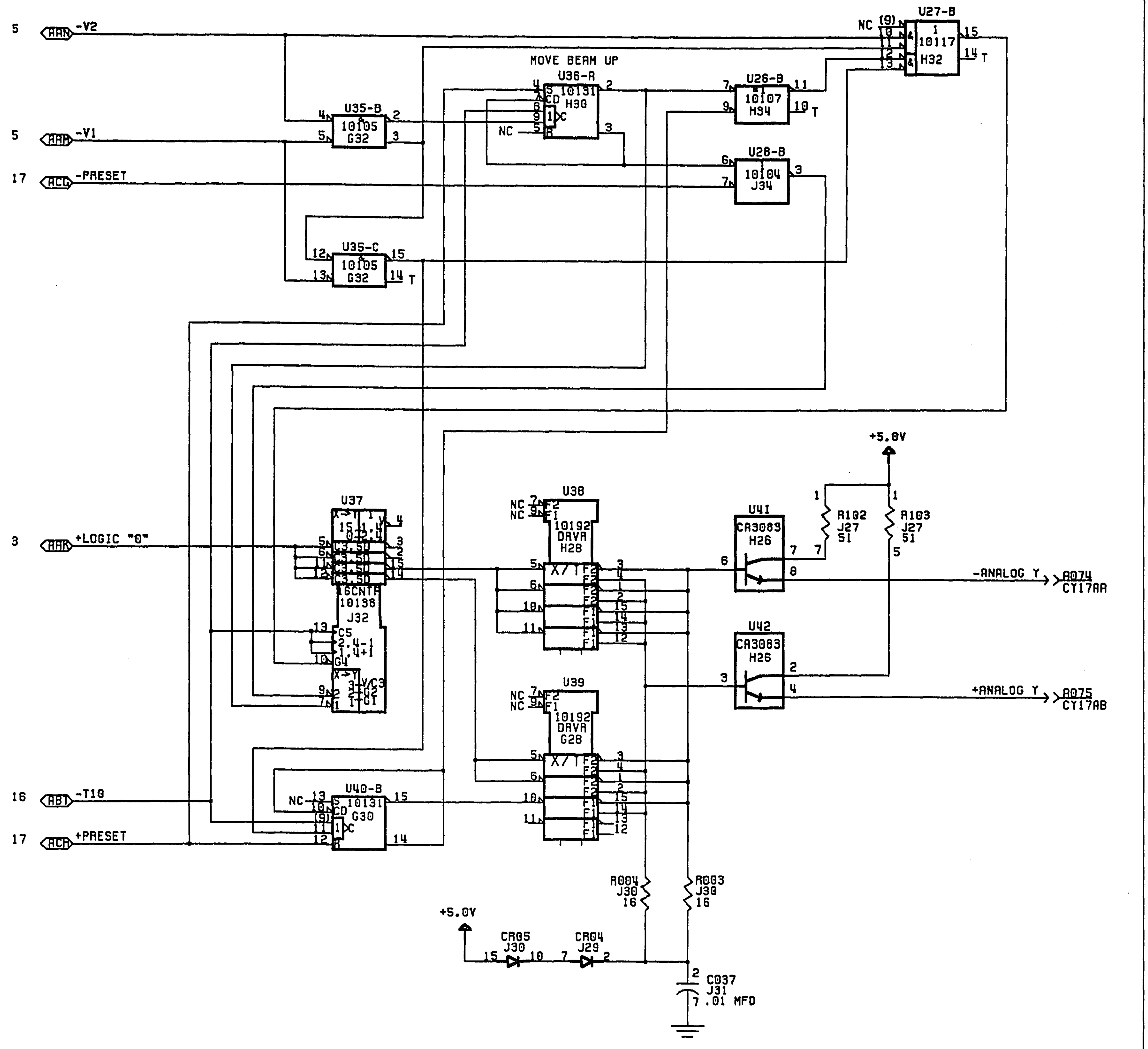
CHAR PAINTER HORIZONTAL



2 THESE PINS ARE CONNECTED TO THE +5V POWER BUS

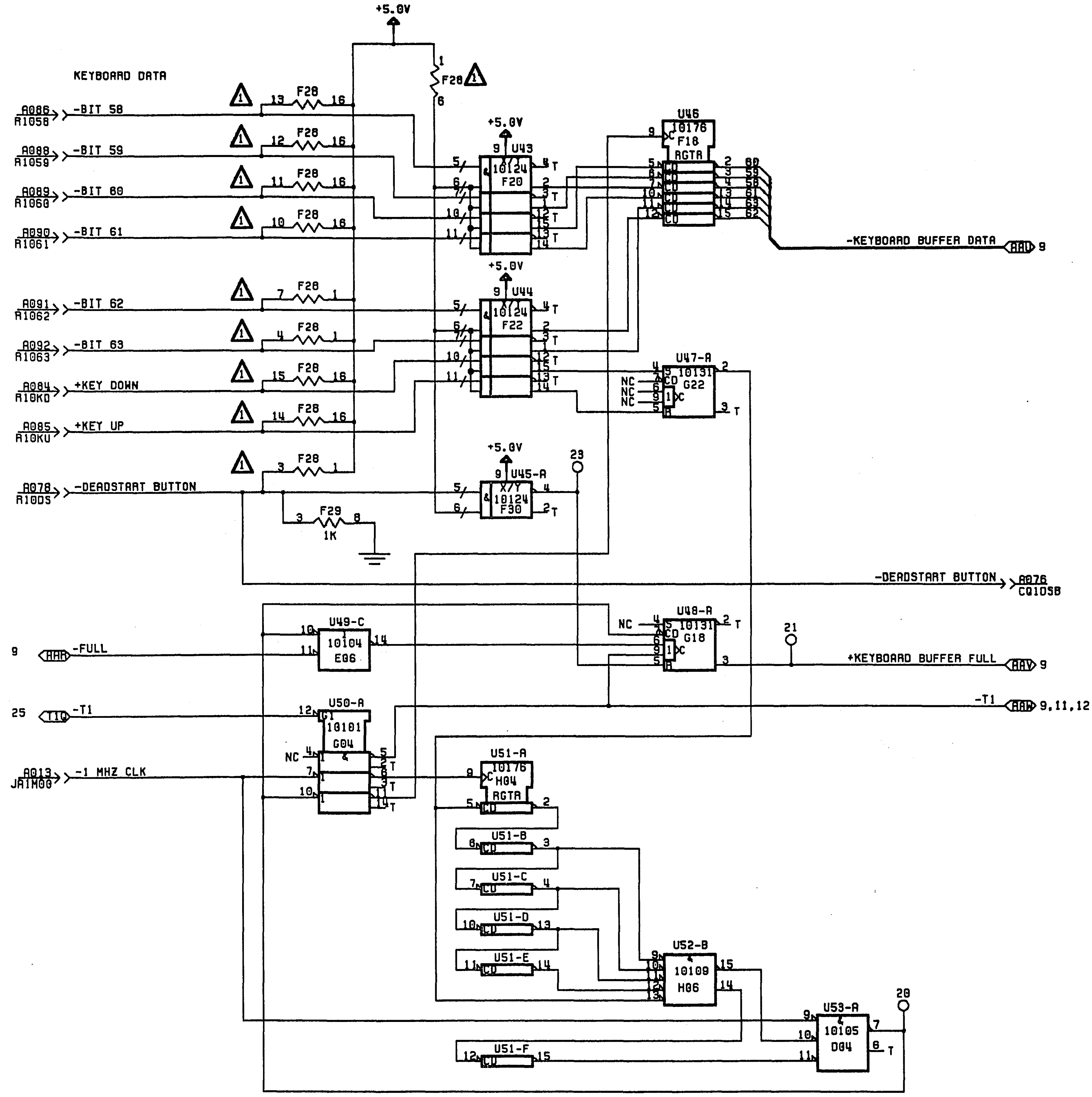
CONTROL DATA	CHAR PAINTER- HORIZONTAL MOVEMENT GEN TYPE 1CQ0	B	DWG NO. 19268920	DATE 11/01/85	REV A
		SHEET NO. 6	60462210	PAGE CQ-06	

CHAR PAINTER VERTICAL



	CHAR PAINTER- VERTICAL MOVEMENT GEN	B	DWG NO. 19268920	DATE 11/01/85	REV A
CONTROL DATA	TYPE 1C00		SHEET NO. 7	60462210	PAGE CQ-07

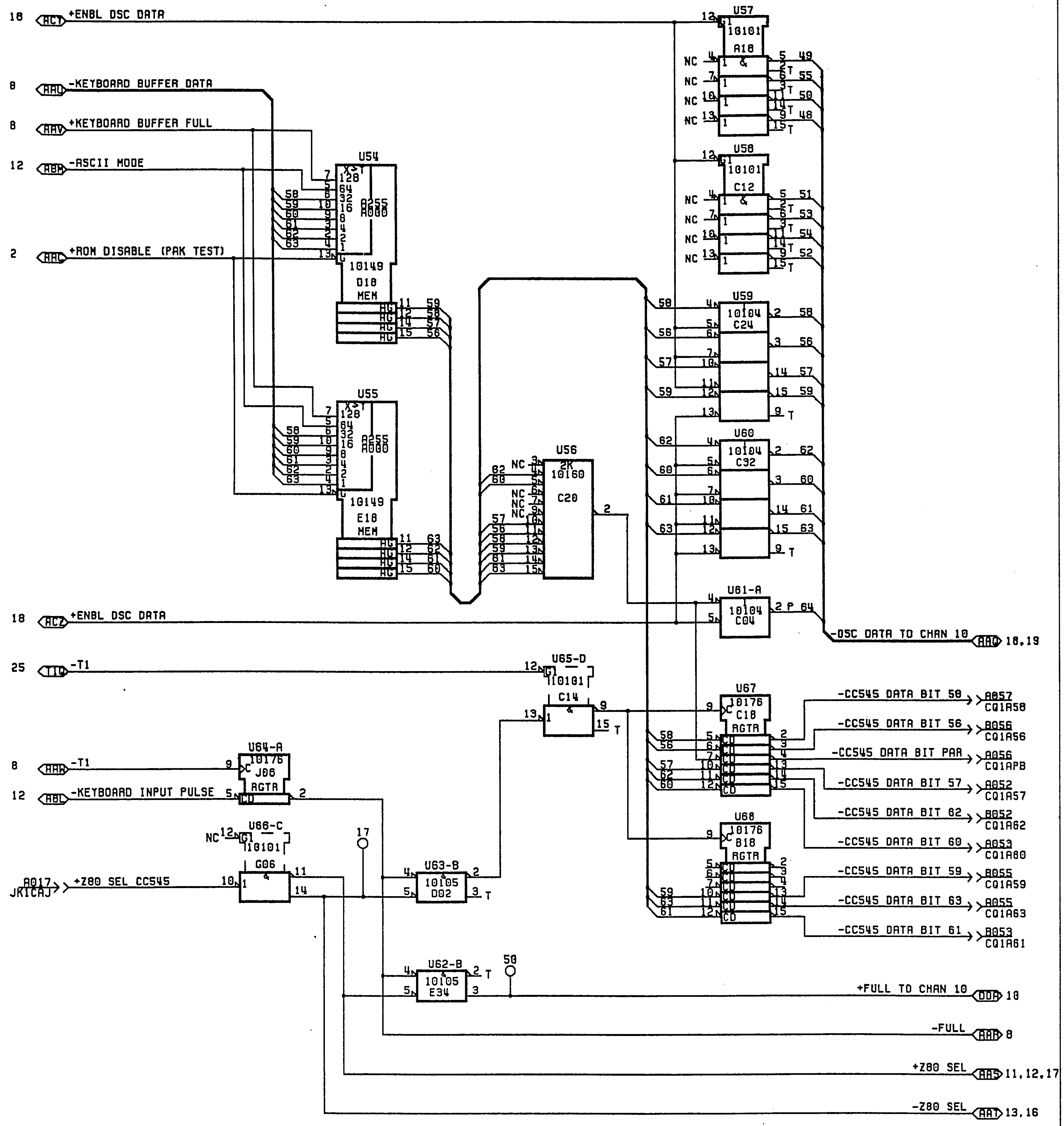
KEYBOARD BUFFER



△1 THIS RESISTOR IS 4.7K

CONTROL DATA	KEYBOARD BUFFER TYPE 1CQO	B	DWG NO. 19268920	DATE 11/01/85	REV A
		SHEET NO. 8	60462210	PAGE CQ-08	

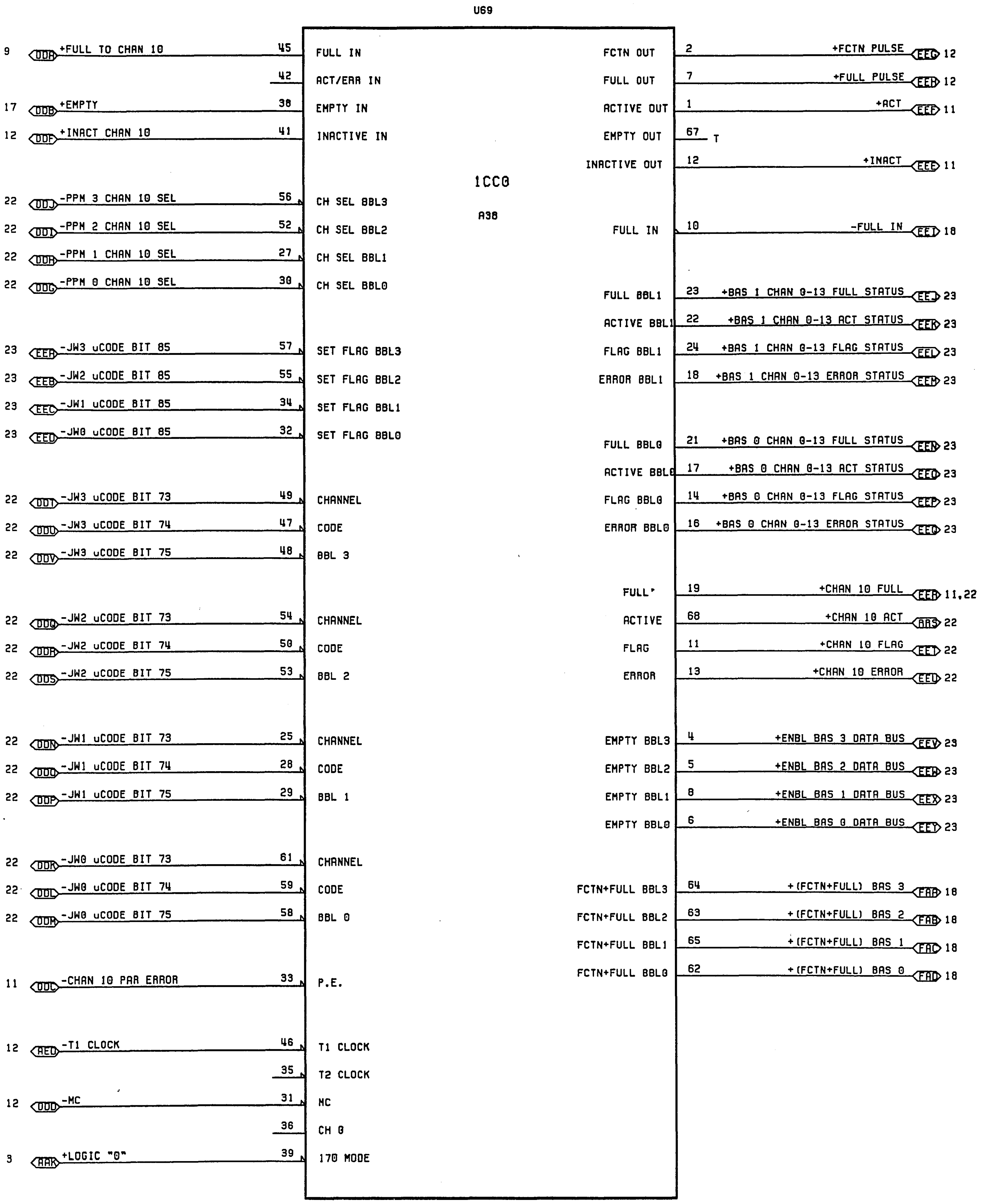
DISPLAY CODE TO ASCII CONVR



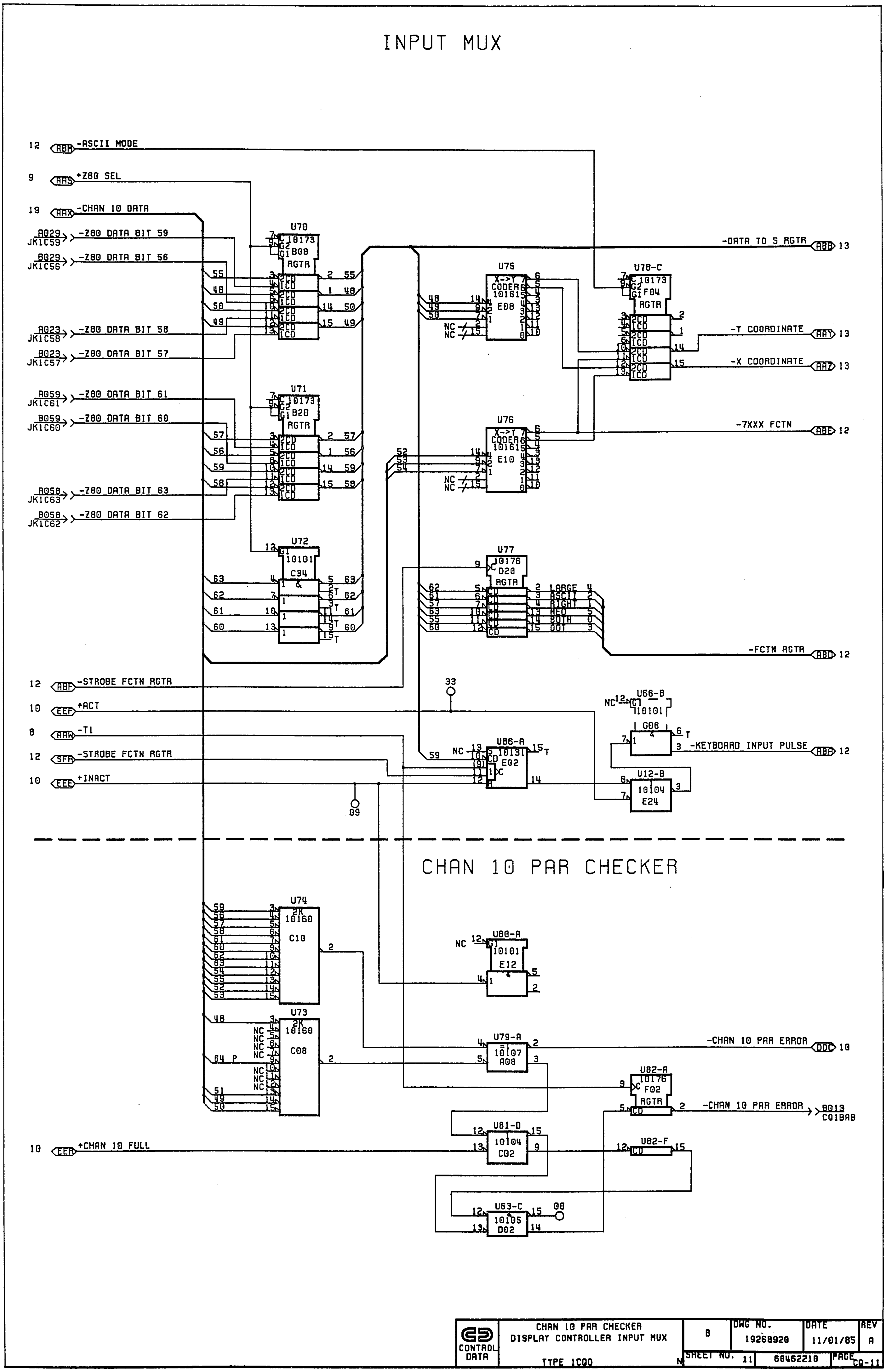
18 ACT +ENBL DSC DATA
8 AAU -KEYBOARD BUFFER DATA
8 AAV +KEYBOARD BUFFER FULL
12 ABK -ASCII MODE
2 AAC +ROM DISABLE (PAK TEST)
U54 10149 D18 MEM
U55 10149 E18 MEM
A255 A000
U56 2K 10160 C20
U57 10101 A18
U58 10101 C12
U59 10104 C24
U60 10104 C32
U61-A 10104 C04
U65-D 10101 C14
U67 10176 C18 AGTR
U68 10176 B18 AGTR
U64-A 10176 J06 AGTR
U66-C 10101 G06
U63-B 10105 D02
U62-B 10105 E34
18 ACZ +ENBL DSC DATA
25 T1Q -T1
8 AAR -T1
12 ABL -KEYBOARD INPUT PULSE
A017 JK1CAJ +Z80 SEL CC545
17
50
-DSC DATA TO CHAN 10 AAQ 18,19
-CC545 DATA BIT 58 A057 CQ1A58
-CC545 DATA BIT 56 A056 CQ1A56
-CC545 DATA BIT PAR A056 CQ1APB
-CC545 DATA BIT 57 A052 CQ1A57
-CC545 DATA BIT 62 A052 CQ1A62
-CC545 DATA BIT 60 A053 CQ1A60
-CC545 DATA BIT 59 A055 CQ1A59
-CC545 DATA BIT 63 A055 CQ1A63
-CC545 DATA BIT 61 A053 CQ1A61
+FULL TO CHAN 10 DDA 18
-FULL AAP 8
+Z80 SEL AAS 11,12,17
-Z80 SEL AAT 13,16

CONTROL DATA	DISPLAY CODE TO ASCII CONVERTER TYPE 1C90	B	DWG NO. 19268928	DATE 11/01/85	REV A
		SHEET NO. 9	60462210	PAGE CQ-09	

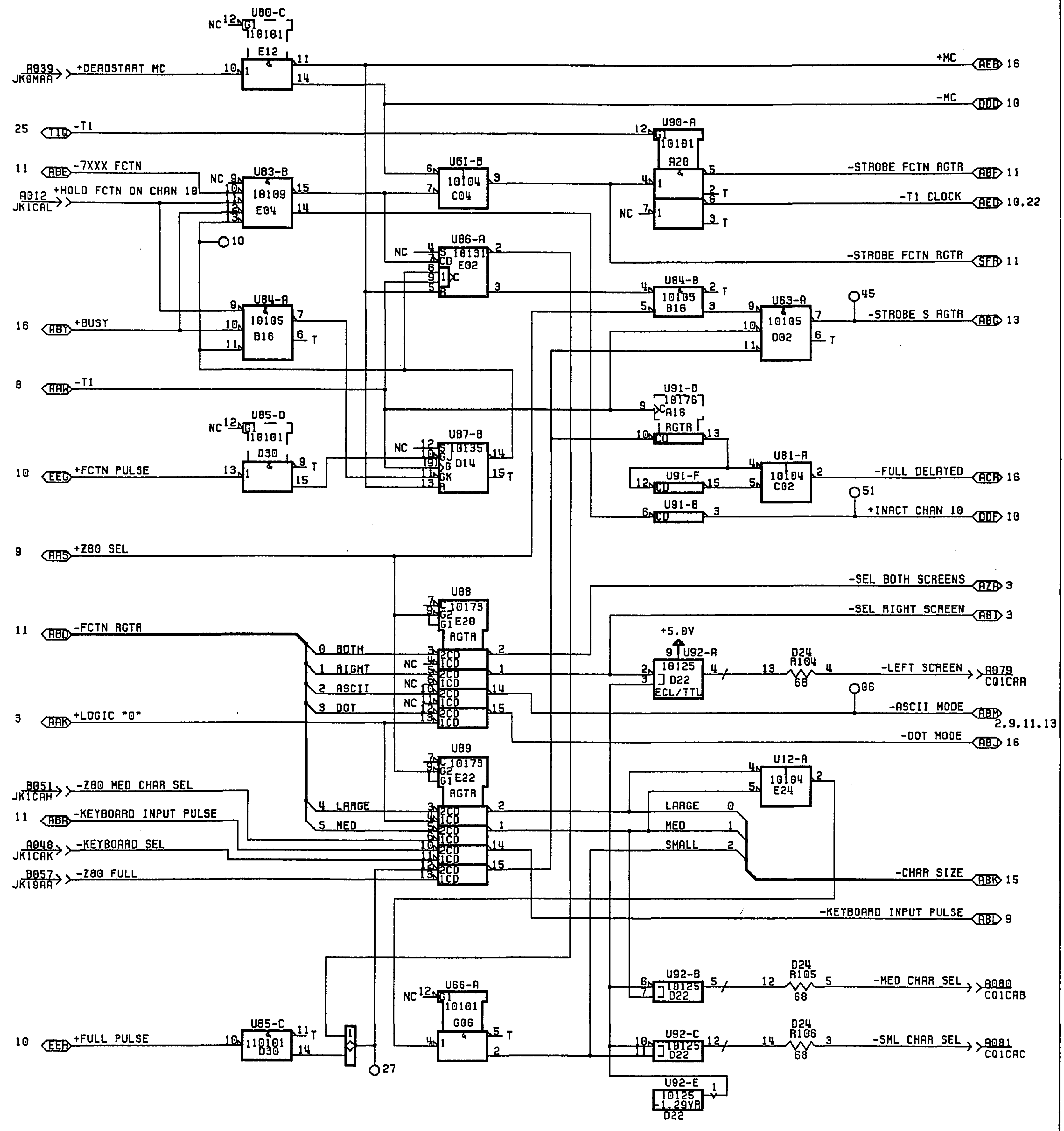
CHANNEL 10 CONTROL


U69
1CC0
A38
9 DDA +FULL TO CHAN 10 45 FULL IN
42 ACT/ERR IN
17 DDB +EMPTY 38 EMPTY IN
12 DDF +INACT CHAN 10 41 INACTIVE IN
22 DDJ -PPM 3 CHAN 10 SEL 56 CH SEL BBL3
22 DDI -PPM 2 CHAN 10 SEL 52 CH SEL BBL2
22 DDH -PPM 1 CHAN 10 SEL 27 CH SEL BBL1
22 DDG -PPM 0 CHAN 10 SEL 30 CH SEL BBL0
23 EEA -JW3 uCODE BIT 85 57 SET FLAG BBL3
23 EEB -JW2 uCODE BIT 85 55 SET FLAG BBL2
23 EEC -JW1 uCODE BIT 85 34 SET FLAG BBL1
23 EED -JW0 uCODE BIT 85 32 SET FLAG BBL0
22 DDT -JW3 uCODE BIT 73 49 CHANNEL
22 DDU -JW3 uCODE BIT 74 47 CODE
22 DDV -JW3 uCODE BIT 75 48 BBL 3
22 DDQ -JW2 uCODE BIT 73 54 CHANNEL
22 DDR -JW2 uCODE BIT 74 50 CODE
22 DDS -JW2 uCODE BIT 75 53 BBL 2
22 DDN -JW1 uCODE BIT 73 25 CHANNEL
22 DDO -JW1 uCODE BIT 74 28 CODE
22 DDP -JW1 uCODE BIT 75 29 BBL 1
22 DDK -JW0 uCODE BIT 73 61 CHANNEL
22 DDL -JW0 uCODE BIT 74 59 CODE
22 DDM -JW0 uCODE BIT 75 58 BBL 0
11 DDC -CHAN 10 PAR ERROR 33 P.E.
12 AED -T1 CLOCK 46 T1 CLOCK
35 T2 CLOCK
12 DDD -MC 31 MC
36 CH 0
3 AAK +LOGIC "0" 39 170 MODE
FCTN OUT 2 +FCTN PULSE EEG 12
FULL OUT 7 +FULL PULSE EEH 12
ACTIVE OUT 1 +ACT EEF 11
EMPTY OUT 67 T
INACTIVE OUT 12 +INACT EEE 11
FULL IN 10 -FULL IN EEI 18
FULL BBL1 23 +BAS 1 CHAN 0-13 FULL STATUS EEJ 23
ACTIVE BBL1 22 +BAS 1 CHAN 0-13 ACT STATUS EEK 23
FLAG BBL1 24 +BAS 1 CHAN 0-13 FLAG STATUS EEL 23
ERROR BBL1 18 +BAS 1 CHAN 0-13 ERROR STATUS EEM 23
FULL BBL0 21 +BAS 0 CHAN 0-13 FULL STATUS EEN 23
ACTIVE BBL0 17 +BAS 0 CHAN 0-13 ACT STATUS EEO 23
FLAG BBL0 14 +BAS 0 CHAN 0-13 FLAG STATUS EEP 23
ERROR BBL0 16 +BAS 0 CHAN 0-13 ERROR STATUS EEQ 23
FULL* 19 +CHAN 10 FULL EER 11,22
ACTIVE 68 +CHAN 10 ACT AAS 22
FLAG 11 +CHAN 10 FLAG EET 22
ERROR 13 +CHAN 10 ERROR EEU 22
EMPTY BBL3 4 +ENBL BAS 3 DATA BUS EEV 23
EMPTY BBL2 5 +ENBL BAS 2 DATA BUS EEW 23
EMPTY BBL1 8 +ENBL BAS 1 DATA BUS EEX 23
EMPTY BBL0 6 +ENBL BAS 0 DATA BUS EEY 23
FCTN+FULL BBL3 64 +(FCTN+FULL) BAS 3 FAA 18
FCTN+FULL BBL2 63 +(FCTN+FULL) BAS 2 FAB 18
FCTN+FULL BBL1 65 +(FCTN+FULL) BAS 1 FAC 18
FCTN+FULL BBL0 62 +(FCTN+FULL) BAS 0 FAD 18

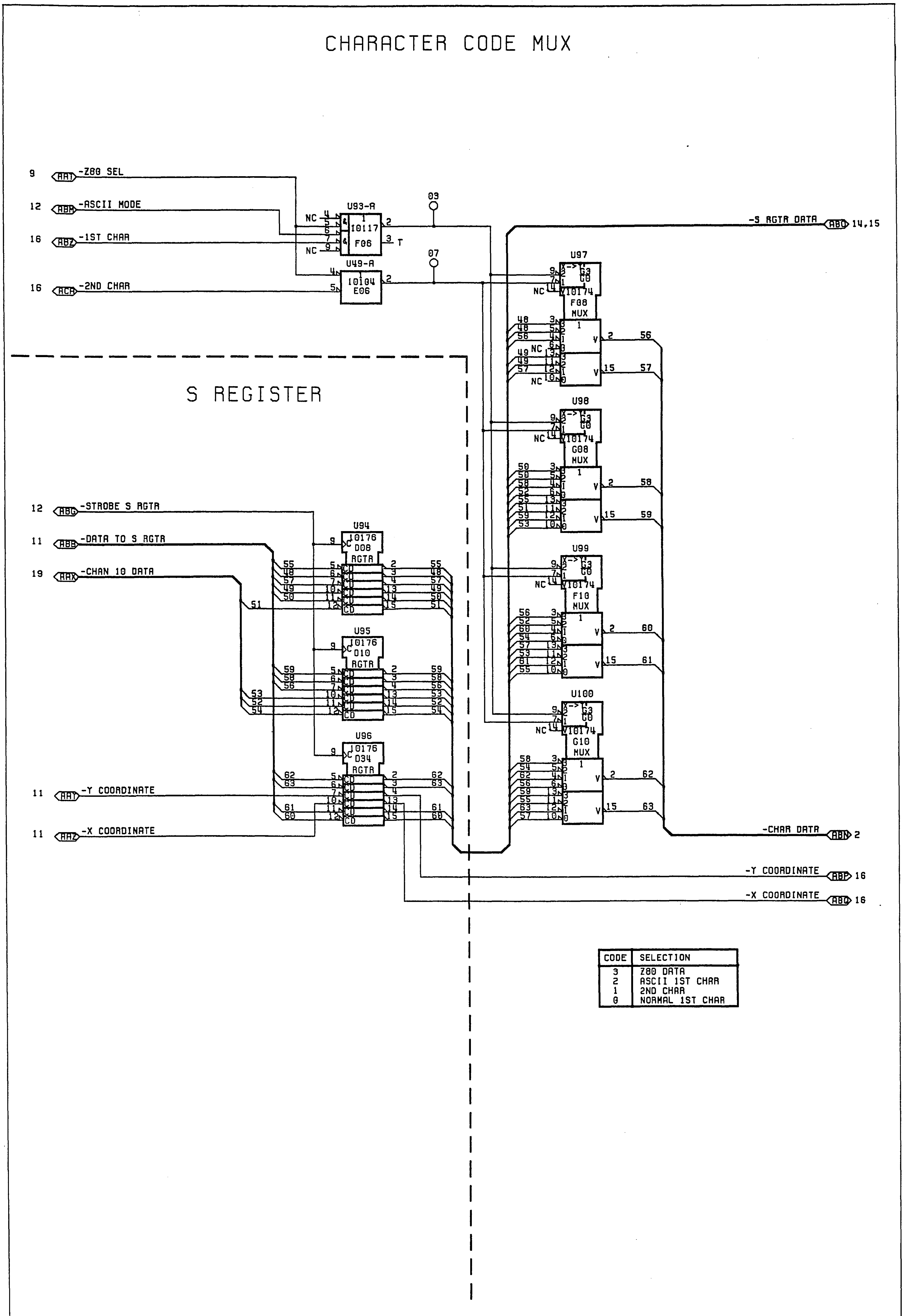
CONTROL DATA	CHAN 10 CONTROL MACROCELL	B	DWG NO. 19268920	DATE 11/01/85	REV A
	TYPE 1CQ0	N SHEET NO. 10	60462210	PAGE CQ-10	


INPUT MUX
12 ABA -ASCII MODE
9 AAS +Z80 SEL
19 AAX -CHAN 10 DATA
A029 JK1C59 -Z80 DATA BIT 59
B029 JK1C56 -Z80 DATA BIT 56
A023 JK1C58 -Z80 DATA BIT 58
B023 JK1C57 -Z80 DATA BIT 57
A059 JK1C61 -Z80 DATA BIT 61
B059 JK1C60 -Z80 DATA BIT 60
A058 JK1C63 -Z80 DATA BIT 63
B058 JK1C62 -Z80 DATA BIT 62
U70 10173 B08 RGTR
U71 10173 B20 RGTR
U72 10101 C34
U75 X->Y CODER 10161 E08
U76 X->Y CODER 10161 E10
U77 10176 D20 RGTR
U78-C 10173 F04 RGTR
-DATA TO 5 RGTR ABB 13
-Y COORDINATE AAT 13
-X COORDINATE AAZ 13
-7XXX FCTN ABE 12
LARGE ASCII RIGHT AED BOTH DOT
-FCTN RGTR ABD 12
12 ABF -STROBE FCTN RGTR
10 EEF +ACT
8 AAW -T1
12 SFA -STROBE FCTN RGTR
10 EEE +INACT
33
89
U86-A 10131 E02
U66-B 10101 G06
-KEYBOARD INPUT PULSE ABA 12
U12-B 10104 E24
CHAN 10 PAR CHECKER
U74 2K 10160 C10
U73 2K 10160 C08
64 P
U80-A 10101 E12
U79-A 10107 A08
-CHAN 10 PAR ERROR DDC 10
U82-A 10176 F02 RGTR
-CHAN 10 PAR ERROR B013 C01BAB
10 EEA +CHAN 10 FULL
U81-D 10104 C02
U82-F
U63-C 10105 D02
08
CONTROL DATA
CHAN 10 PAR CHECKER
DISPLAY CONTROLLER INPUT MUX
TYPE 1C00
B
DWG NO. 19268920
DATE 11/01/85
REV A
SHEET NO. 11
60462210
PAGE C0-11

FUNCTION MUX



CONTROL DATA	DISPLAY CONTROLLER FCTN MUX TYPE 1CQ0	B	DWG NO. 19268920	DATE 11/01/85	REV A
			SHEET NO. 12	60462210	PAGE CQ-12



CODE	SELECTION
3	Z80 DATA
2	ASCII 1ST CHAR
1	2ND CHAR
0	NORMAL 1ST CHAR

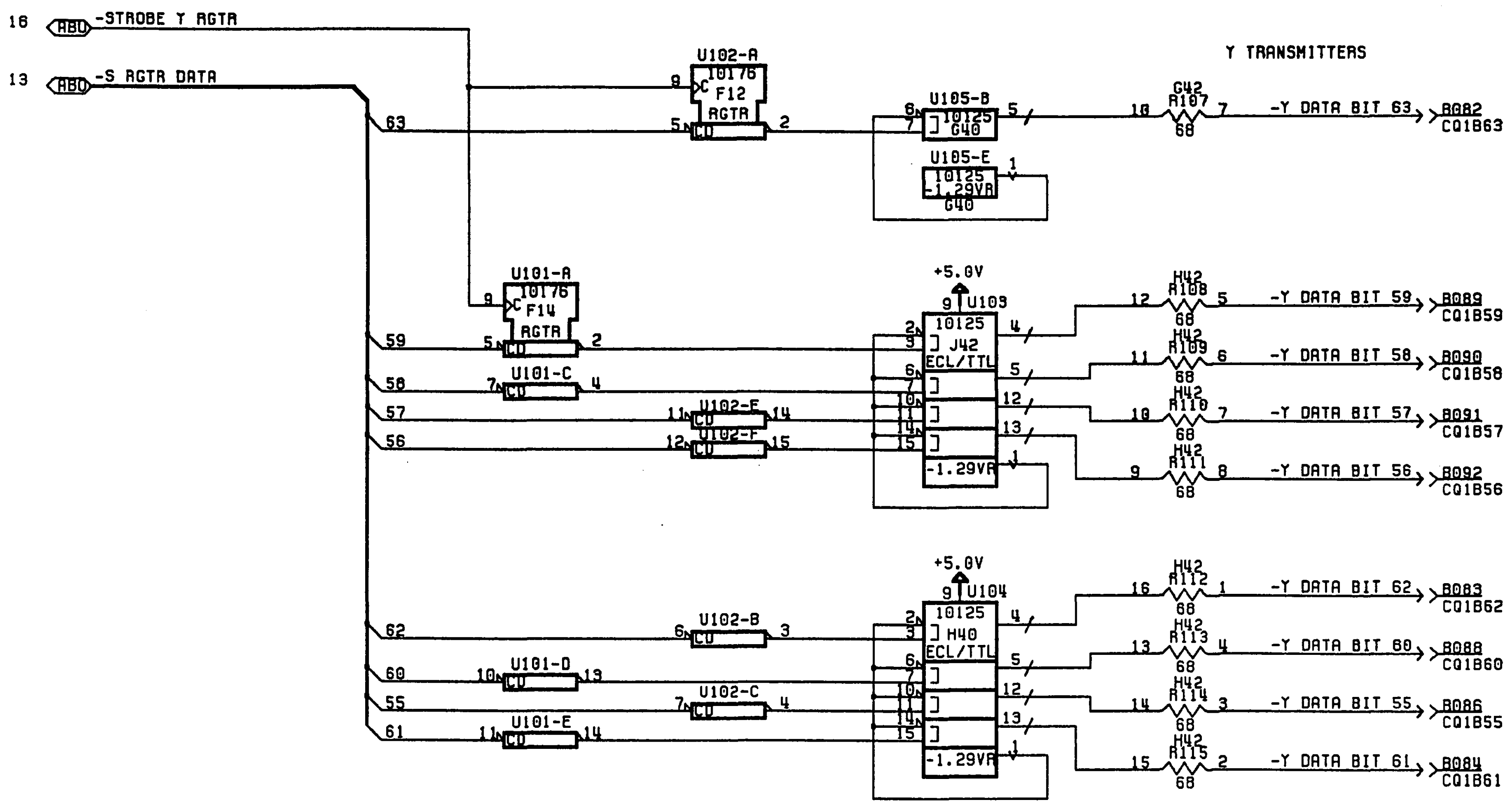
CONTROL DATA

S RGTR AND CHAR CODE
SEL MUX

TYPE 1CQ0

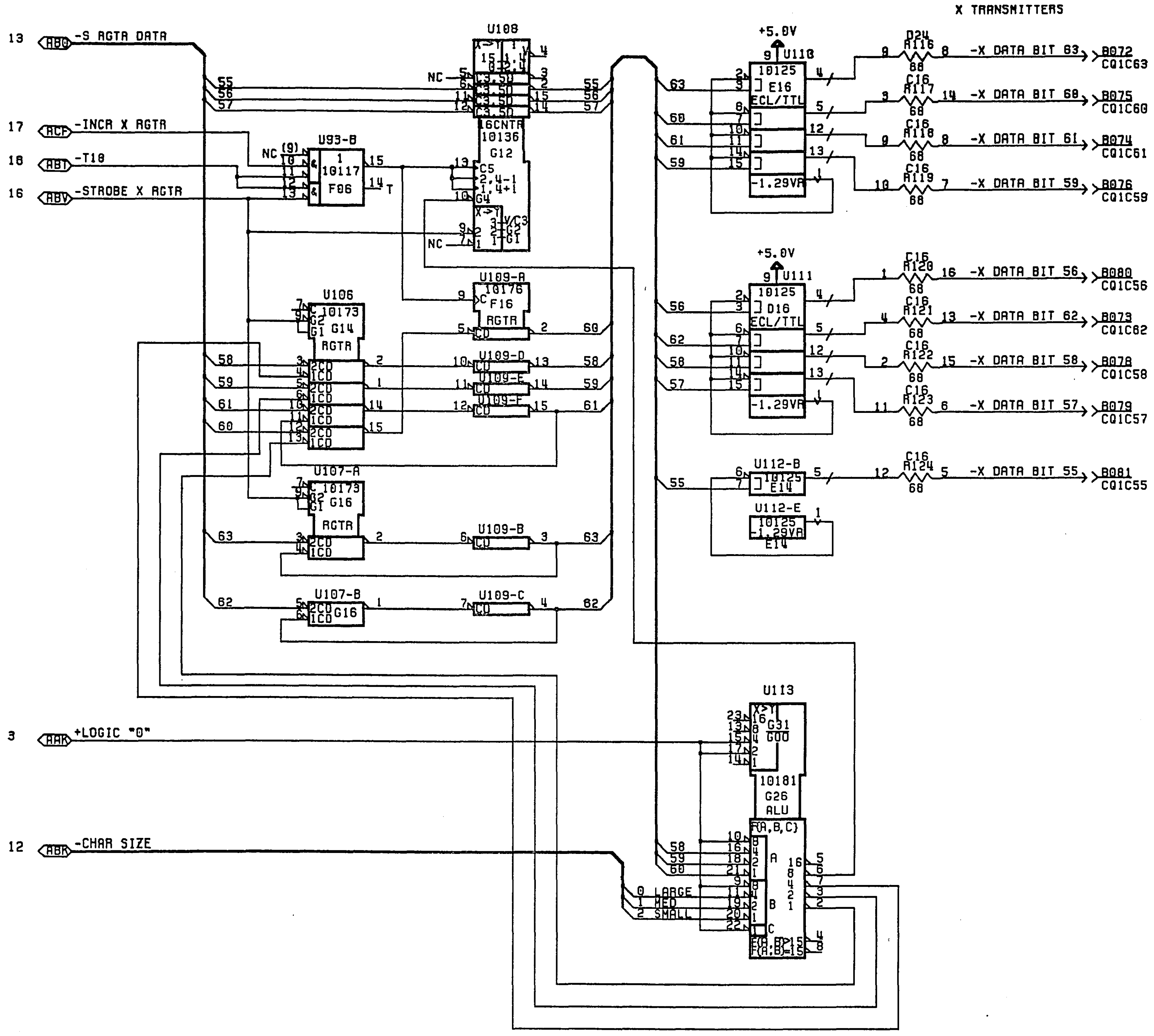
B	DWG NO. 19268920	DATE 11/01/85	REV A
SHEET NO. 13	60462210	PAGE CQ-13	

Y REGISTER



CONTROL DATA	Y RGTR TYPE 1CQD	B	DWG NO. 19268920	DATE 11/01/85	REV A
		SHEET NO. 14	60462210	PAGE CQ-14	

X REGISTER



CONTROL DATA

X RGTR

TYPE 1C00

B

DWG NO. 19268920

DATE 11/01/85

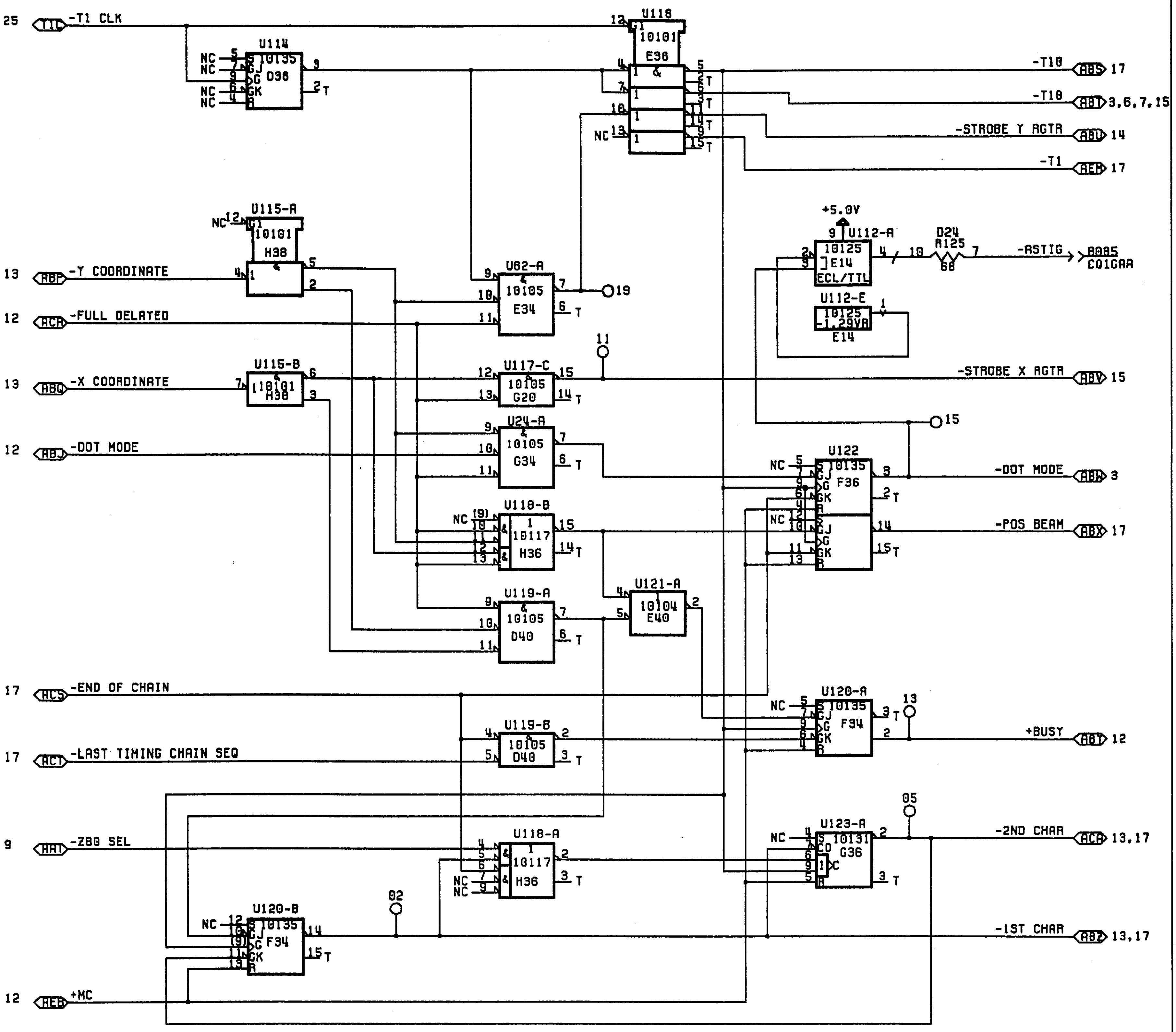
REV A

SHEET NO. 15

60462210

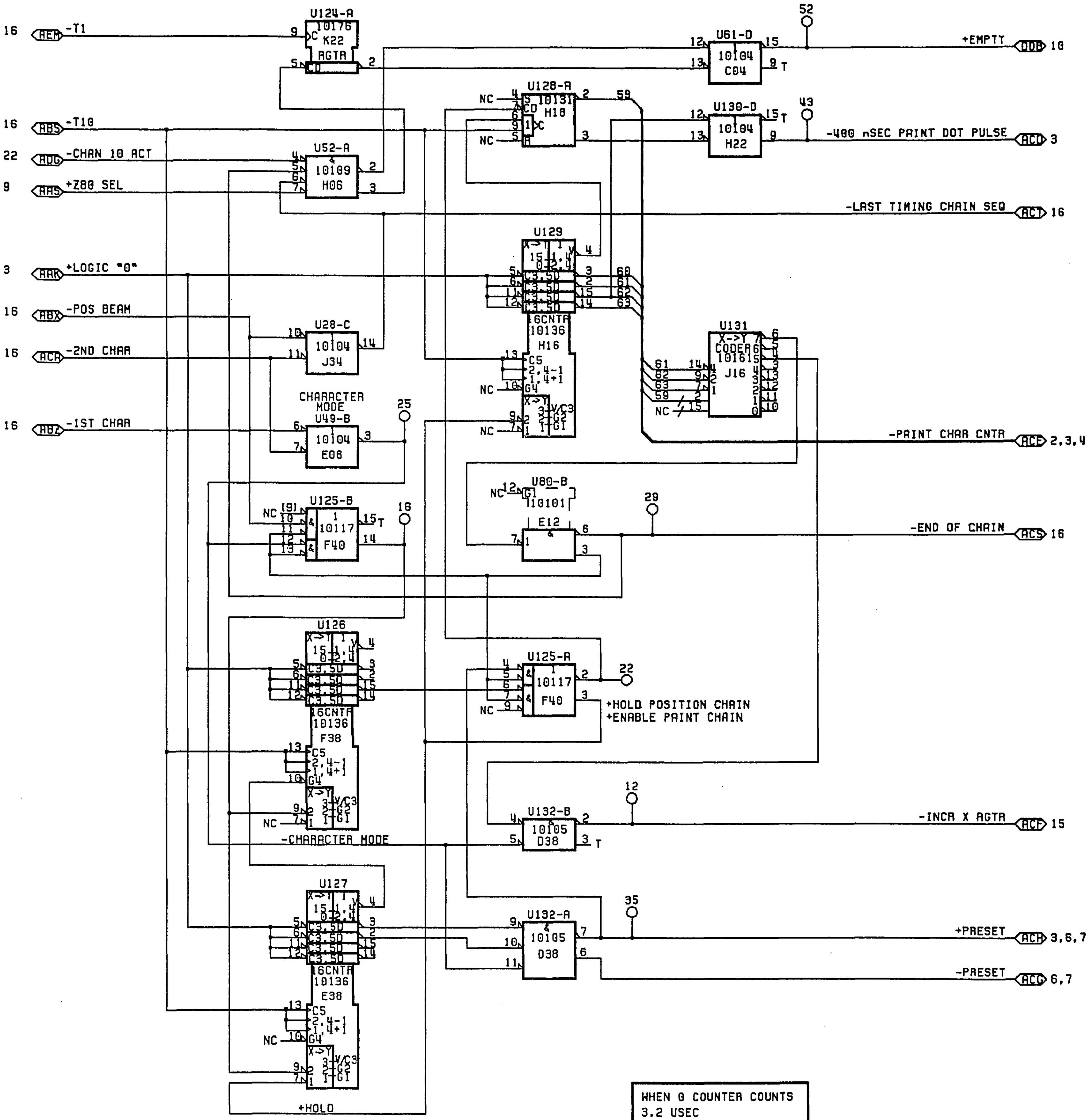
PAGE CQ-15

STATUS F/F'S



CONTROL DATA	DISPLAY CONTROLLER STATUS F/F'S TYPE 1CQ0	B	DWG NO. 19268920	DATE 11/01/85	REV A
		SHEET NO. 16	60462210	PAGE CQ-18	

TIMING CHAIN

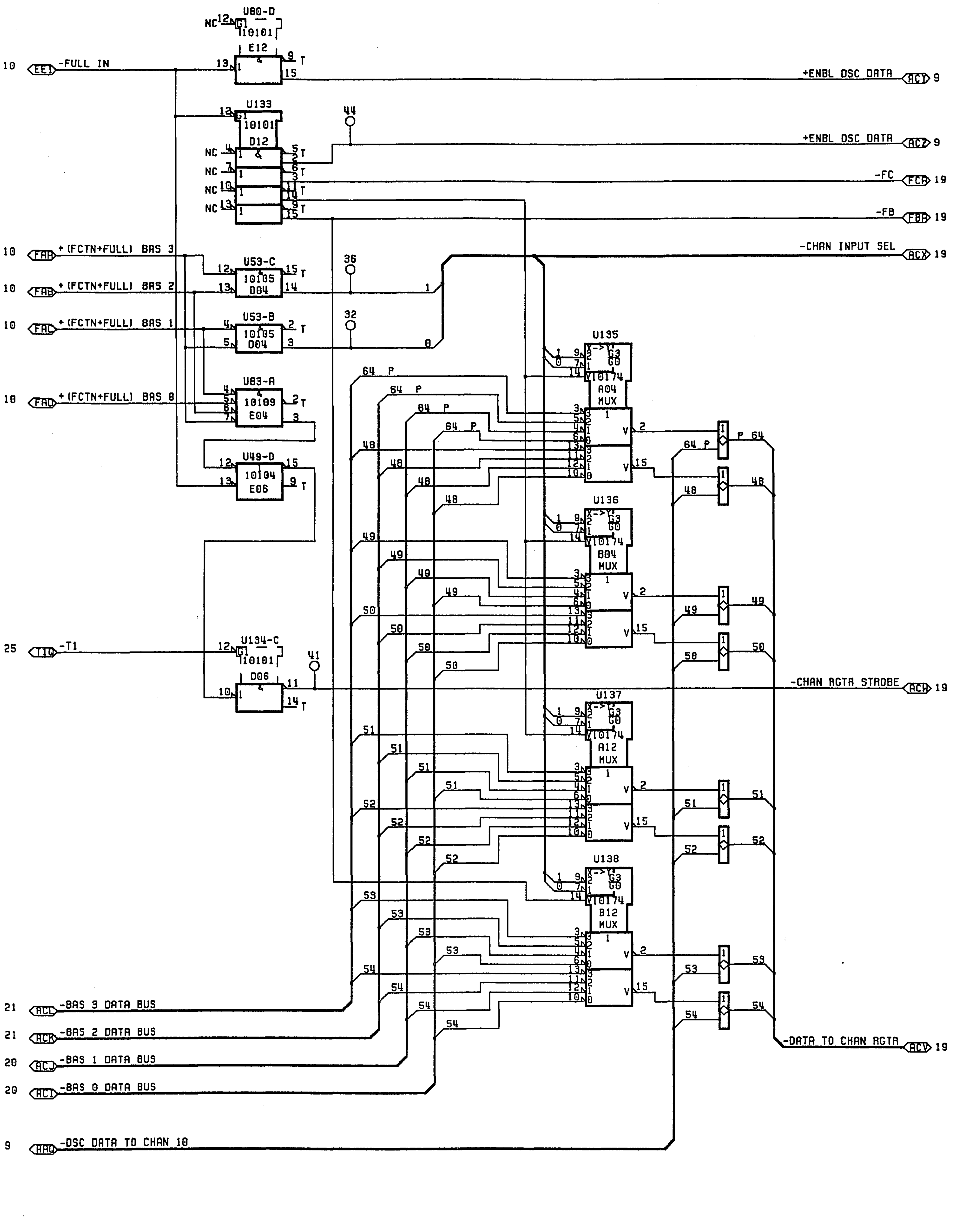


WHEN 0 COUNTER COUNTS
3.2 USEC

WHEN 1 COUNTER COUNTS
1.2 USEC

CONTROL DATA	TIMING CHAIN CNTRS TYPE 1CQ0	B	DWG NO. 19268928	DATE 11/01/85	REV A
		SHEET NO. 17	60462210	PAGE CQ-17	

CHANNEL 10 INPUT MUX



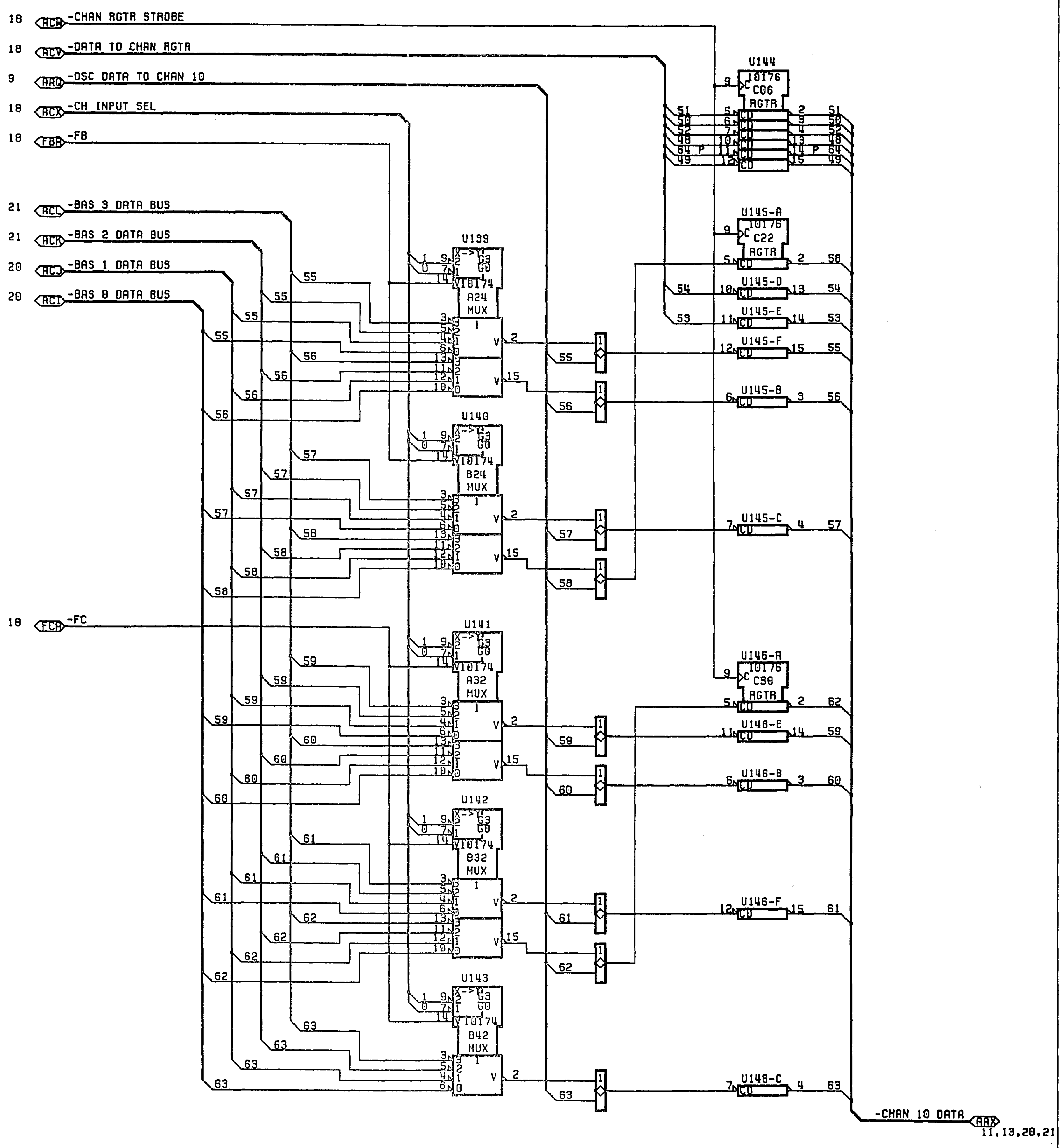
CONTROL DATA

CHAN 10 INPUT MUX
AND CONTROLS

TYPE 1CQ0

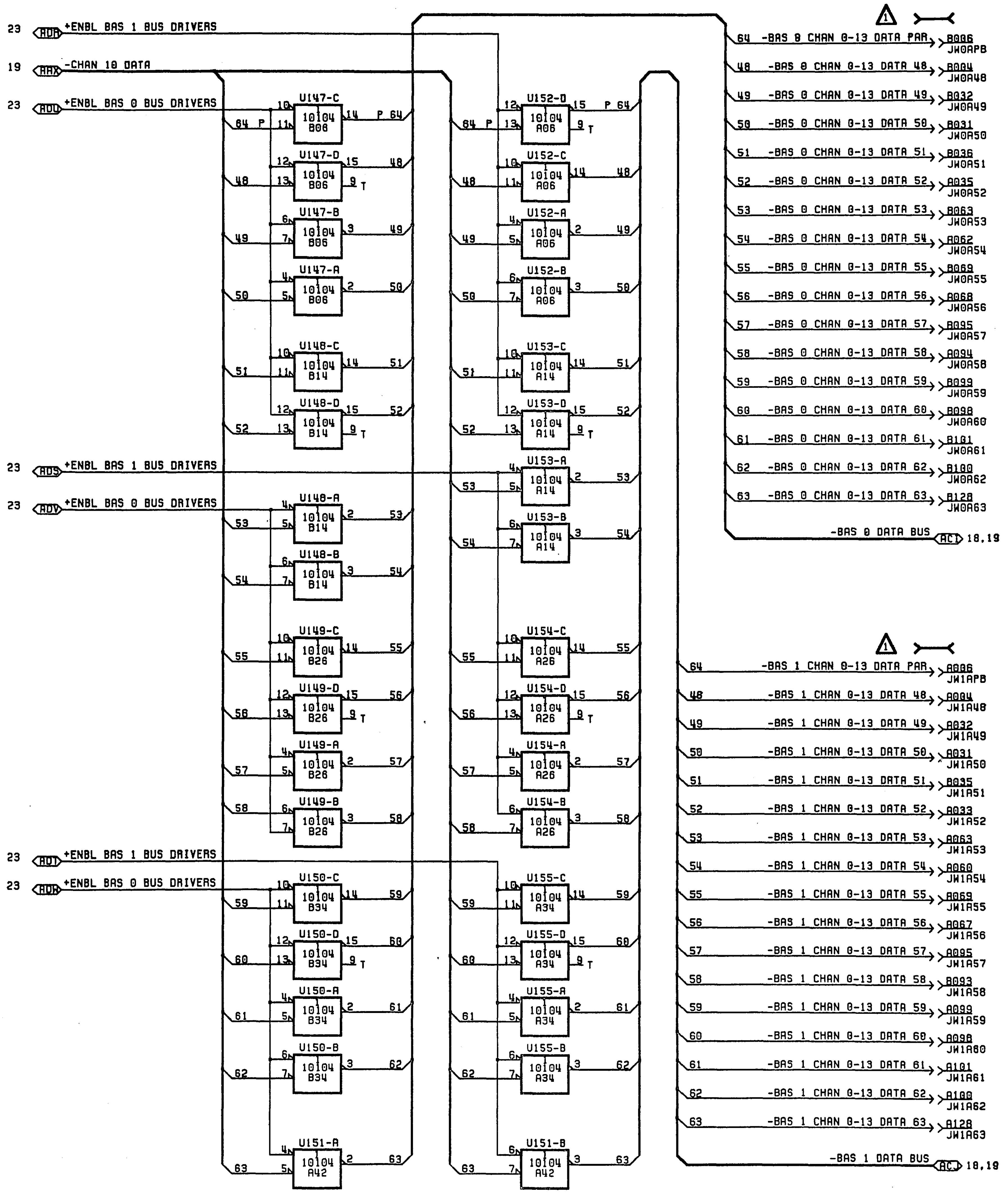
B	DWG NO. 19268928	DATE 11/01/85	REV A
SHEET NO. 18	60462210	PAGE CQ-18	

CHANNEL 10 INPUT MUX



CONTROL DATA	CHAN 10 INPUT MUX AND DATA RGTR TYPE 1CQ0	B	DWG NO. 19268920	DATE 11/01/85	REV A
		SHEET NO. 19	60462210	PAGE CQ-19	

BAS 0 & 1 BUS DRIVERS


23 ADR +ENBL BAS 1 BUS DRIVERS
19 AAX -CHAN 10 DATA
23 ADU +ENBL BAS 0 BUS DRIVERS
23 ADS +ENBL BAS 1 BUS DRIVERS
23 ADV +ENBL BAS 0 BUS DRIVERS
23 ADT +ENBL BAS 1 BUS DRIVERS
23 ADW +ENBL BAS 0 BUS DRIVERS
U147-C 10104 B06
U147-D 10104 B06
U147-B 10104 B06
U147-A 10104 B06
U148-C 10104 B14
U148-D 10104 B14
U148-A 10104 B14
U148-B 10104 B14
U149-C 10104 B26
U149-D 10104 B26
U149-A 10104 B26
U149-B 10104 B26
U150-C 10104 B34
U150-D 10104 B34
U150-A 10104 B34
U150-B 10104 B34
U151-A 10104 A42
U152-D 10104 A06
U152-C 10104 A06
U152-A 10104 A06
U152-B 10104 A06
U153-C 10104 A14
U153-D 10104 A14
U153-A 10104 A14
U153-B 10104 A14
U154-C 10104 A26
U154-D 10104 A26
U154-A 10104 A26
U154-B 10104 A26
U155-C 10104 A34
U155-D 10104 A34
U155-A 10104 A34
U155-B 10104 A34
U151-B 10104 A42
64 P
P 64
T
64 -BAS 0 CHAN 0-13 DATA PAR B006 JW0APB
48 -BAS 0 CHAN 0-13 DATA 48 B004 JW0A48
49 -BAS 0 CHAN 0-13 DATA 49 B032 JW0A49
50 -BAS 0 CHAN 0-13 DATA 50 B031 JW0A50
51 -BAS 0 CHAN 0-13 DATA 51 B036 JW0A51
52 -BAS 0 CHAN 0-13 DATA 52 A035 JW0A52
53 -BAS 0 CHAN 0-13 DATA 53 B063 JW0A53
54 -BAS 0 CHAN 0-13 DATA 54 A062 JW0A54
55 -BAS 0 CHAN 0-13 DATA 55 B069 JW0A55
56 -BAS 0 CHAN 0-13 DATA 56 A068 JW0A56
57 -BAS 0 CHAN 0-13 DATA 57 B095 JW0A57
58 -BAS 0 CHAN 0-13 DATA 58 A094 JW0A58
59 -BAS 0 CHAN 0-13 DATA 59 B099 JW0A59
60 -BAS 0 CHAN 0-13 DATA 60 B098 JW0A60
61 -BAS 0 CHAN 0-13 DATA 61 B101 JW0A61
62 -BAS 0 CHAN 0-13 DATA 62 B100 JW0A62
63 -BAS 0 CHAN 0-13 DATA 63 B128 JW0A63
-BAS 0 DATA BUS ACI 18,19
64 -BAS 1 CHAN 0-13 DATA PAR A006 JW1APB
48 -BAS 1 CHAN 0-13 DATA 48 A004 JW1A48
49 -BAS 1 CHAN 0-13 DATA 49 A032 JW1A49
50 -BAS 1 CHAN 0-13 DATA 50 A031 JW1A50
51 -BAS 1 CHAN 0-13 DATA 51 B035 JW1A51
52 -BAS 1 CHAN 0-13 DATA 52 A033 JW1A52
53 -BAS 1 CHAN 0-13 DATA 53 A063 JW1A53
54 -BAS 1 CHAN 0-13 DATA 54 A060 JW1A54
55 -BAS 1 CHAN 0-13 DATA 55 A069 JW1A55
56 -BAS 1 CHAN 0-13 DATA 56 A067 JW1A56
57 -BAS 1 CHAN 0-13 DATA 57 A095 JW1A57
58 -BAS 1 CHAN 0-13 DATA 58 B093 JW1A58
59 -BAS 1 CHAN 0-13 DATA 59 A099 JW1A59
60 -BAS 1 CHAN 0-13 DATA 60 A098 JW1A60
61 -BAS 1 CHAN 0-13 DATA 61 A101 JW1A61
62 -BAS 1 CHAN 0-13 DATA 62 A100 JW1A62
63 -BAS 1 CHAN 0-13 DATA 63 A128 JW1A63
-BAS 1 DATA BUS ACJ 18,19

⚠1 THESE BIDIRECTIONAL LINES MUST BE EXTRA SHORT AND TERMINATED AT THE END OF THE FOIL FARTHEST FROM THE PIN

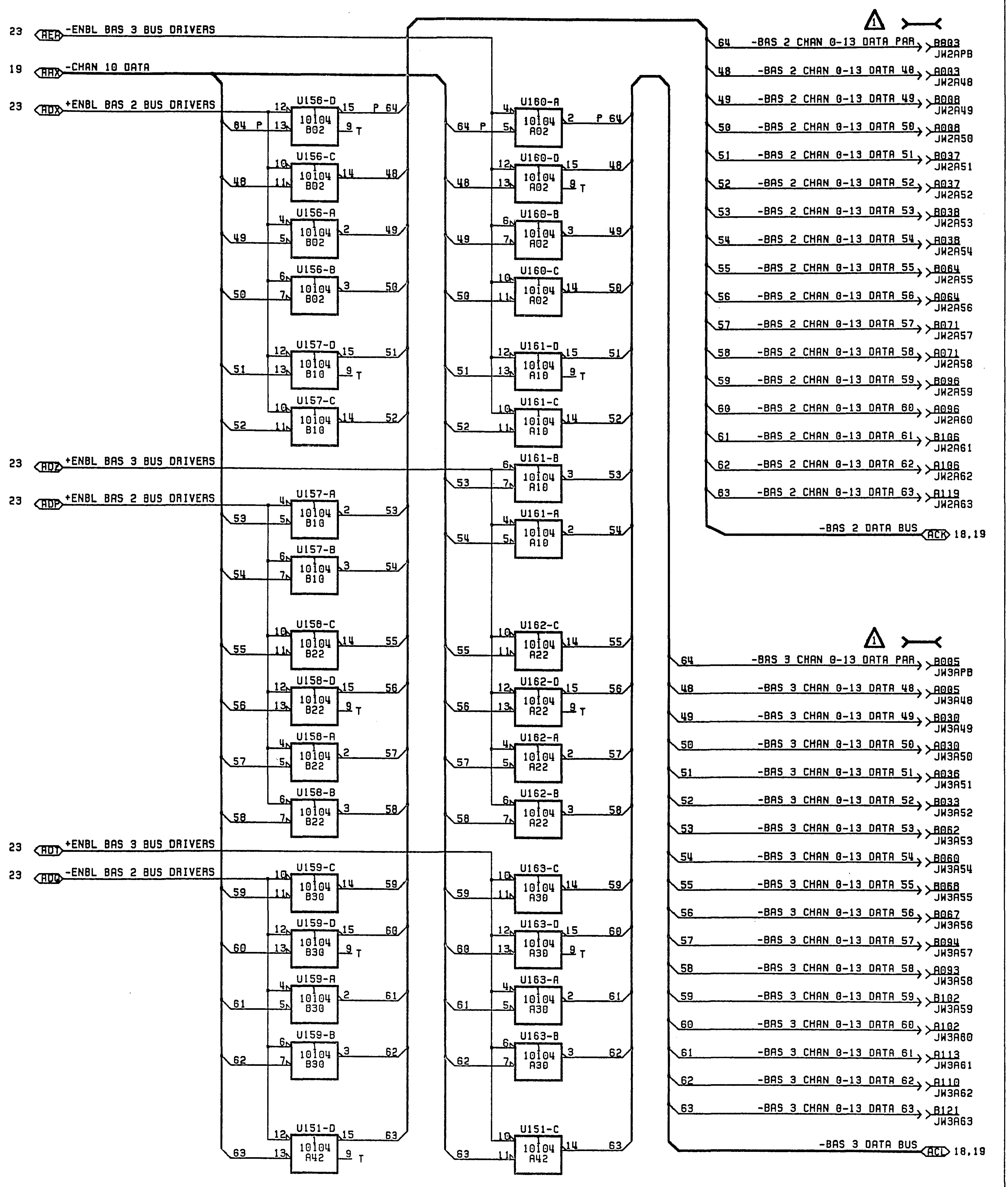
CONTROL DATA

BAS 0 & 1
BUS DRIVERS

TYPE 1CQ0

	DWG NO.	DATE	REV
B	19268920	11/01/85	A
N SHEET NO. 20	60462210	PAGE CQ-20	

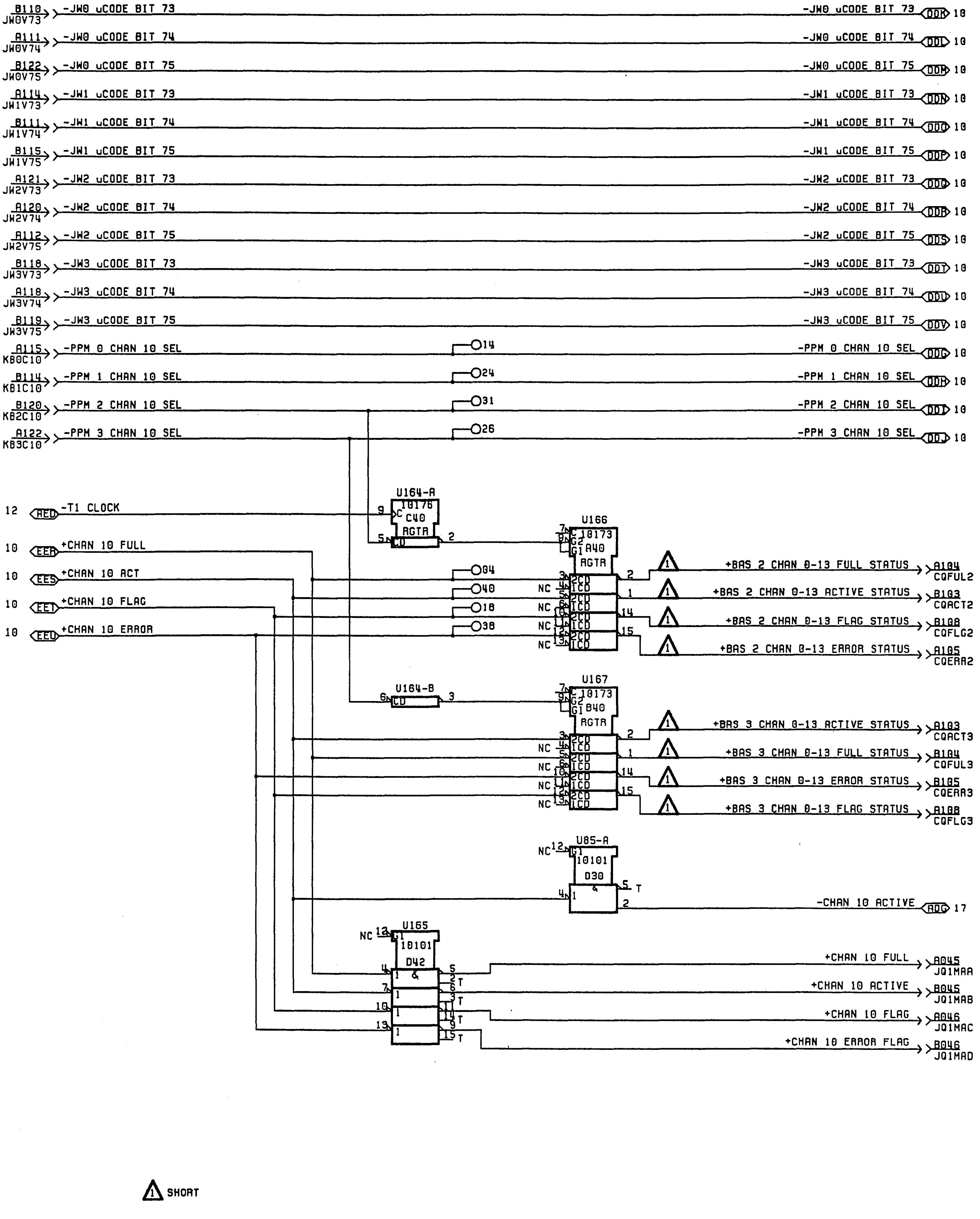
BAS 2 & 3 BUS DRIVERS


23 AEB -ENBL BAS 3 BUS DRIVERS
19 AAX -CHAN 10 DATA
23 ADX +ENBL BAS 2 BUS DRIVERS
23 ADZ +ENBL BAS 3 BUS DRIVERS
23 ADP +ENBL BAS 2 BUS DRIVERS
23 ADT +ENBL BAS 3 BUS DRIVERS
23 ADQ -ENBL BAS 2 BUS DRIVERS
U156-D 10104 B02
U156-C 10104 B02
U156-A 10104 B02
U156-B 10104 B02
U157-D 10104 B10
U157-C 10104 B10
U157-A 10104 B10
U157-B 10104 B10
U158-C 10104 B22
U158-D 10104 B22
U158-A 10104 B22
U158-B 10104 B22
U159-C 10104 B30
U159-D 10104 B30
U159-A 10104 B30
U159-B 10104 B30
U151-D 10104 A42
U160-A 10104 A02
U160-D 10104 A02
U160-B 10104 A02
U160-C 10104 A02
U161-D 10104 A10
U161-C 10104 A10
U161-B 10104 A10
U161-A 10104 A10
U162-C 10104 A22
U162-D 10104 A22
U162-A 10104 A22
U162-B 10104 A22
U163-C 10104 A30
U163-D 10104 A30
U163-A 10104 A30
U163-B 10104 A30
U151-C 10104 A42
P 64
T
1
64 -BAS 2 CHAN 0-13 DATA PAR B003 JW2APB
48 -BAS 2 CHAN 0-13 DATA 48 A003 JW2A48
49 -BAS 2 CHAN 0-13 DATA 49 B008 JW2A49
50 -BAS 2 CHAN 0-13 DATA 50 A008 JW2A50
51 -BAS 2 CHAN 0-13 DATA 51 B037 JW2A51
52 -BAS 2 CHAN 0-13 DATA 52 A037 JW2A52
53 -BAS 2 CHAN 0-13 DATA 53 B038 JW2A53
54 -BAS 2 CHAN 0-13 DATA 54 A038 JW2A54
55 -BAS 2 CHAN 0-13 DATA 55 B064 JW2A55
56 -BAS 2 CHAN 0-13 DATA 56 A064 JW2A56
57 -BAS 2 CHAN 0-13 DATA 57 B071 JW2A57
58 -BAS 2 CHAN 0-13 DATA 58 A071 JW2A58
59 -BAS 2 CHAN 0-13 DATA 59 B096 JW2A59
60 -BAS 2 CHAN 0-13 DATA 60 A096 JW2A60
61 -BAS 2 CHAN 0-13 DATA 61 B106 JW2A61
62 -BAS 2 CHAN 0-13 DATA 62 A106 JW2A62
63 -BAS 2 CHAN 0-13 DATA 63 A119 JW2A63
-BAS 2 DATA BUS ACK 18,19
64 -BAS 3 CHAN 0-13 DATA PAR B005 JW3APB
48 -BAS 3 CHAN 0-13 DATA 48 A005 JW3A48
49 -BAS 3 CHAN 0-13 DATA 49 B030 JW3A49
50 -BAS 3 CHAN 0-13 DATA 50 A030 JW3A50
51 -BAS 3 CHAN 0-13 DATA 51 A036 JW3A51
52 -BAS 3 CHAN 0-13 DATA 52 B033 JW3A52
53 -BAS 3 CHAN 0-13 DATA 53 B062 JW3A53
54 -BAS 3 CHAN 0-13 DATA 54 B060 JW3A54
55 -BAS 3 CHAN 0-13 DATA 55 B068 JW3A55
56 -BAS 3 CHAN 0-13 DATA 56 B067 JW3A56
57 -BAS 3 CHAN 0-13 DATA 57 B094 JW3A57
58 -BAS 3 CHAN 0-13 DATA 58 A093 JW3A58
59 -BAS 3 CHAN 0-13 DATA 59 B102 JW3A59
60 -BAS 3 CHAN 0-13 DATA 60 A102 JW3A60
61 -BAS 3 CHAN 0-13 DATA 61 A113 JW3A61
62 -BAS 3 CHAN 0-13 DATA 62 A110 JW3A62
63 -BAS 3 CHAN 0-13 DATA 63 B121 JW3A63
-BAS 3 DATA BUS ACL 18,19

△1 THESE BIDIRECTIONAL LINES MUST BE EXTRA SHORT AND TERMINATED AT THE END OF THE FOIL FARTHEST FROM THE PIN

CONTROL DATA
BAS 2 & 3
BUS DRIVERS
TYPE 1CQ0
N
B
DWG NO. 19268920
DATE 11/01/85
REV A
SHEET NO. 21
60462210
PAGE CQ-21

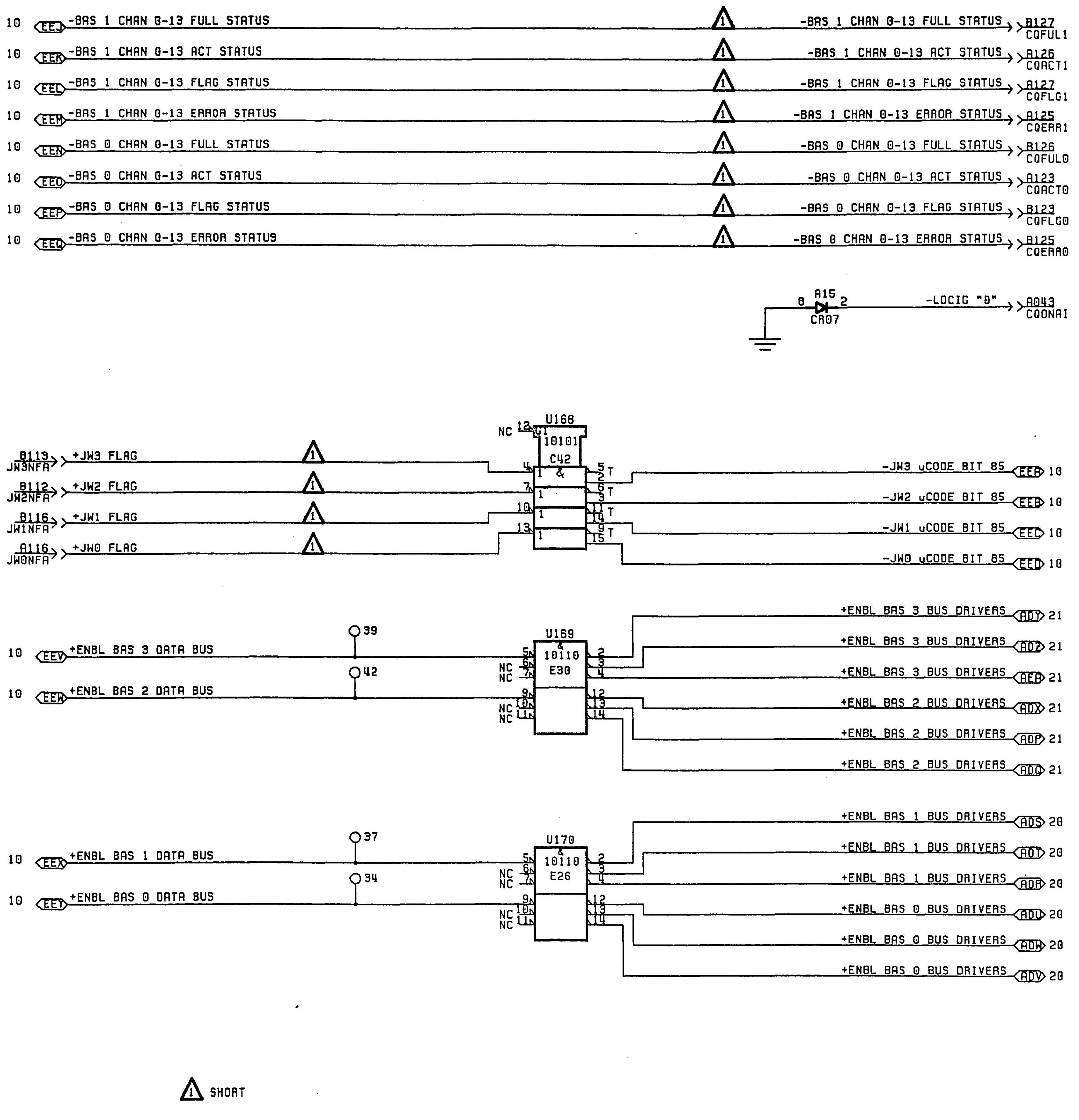
CHANNEL CONTROLS


B110 JW0V73 -JW0 uCODE BIT 73 DDK 10
A111 JW0V74 -JW0 uCODE BIT 74 DDL 10
B122 JW0V75 -JW0 uCODE BIT 75 DDM 10
A114 JW1V73 -JW1 uCODE BIT 73 DDN 10
B111 JW1V74 -JW1 uCODE BIT 74 DDO 10
B115 JW1V75 -JW1 uCODE BIT 75 DDP 10
A121 JW2V73 -JW2 uCODE BIT 73 DDQ 10
A120 JW2V74 -JW2 uCODE BIT 74 DDR 10
A112 JW2V75 -JW2 uCODE BIT 75 DDS 10
B118 JW3V73 -JW3 uCODE BIT 73 DDT 10
A118 JW3V74 -JW3 uCODE BIT 74 DDU 10
B119 JW3V75 -JW3 uCODE BIT 75 DDV 10
A115 KB0C10 -PPM 0 CHAN 10 SEL 14 DDG 10
B114 KB1C10 -PPM 1 CHAN 10 SEL 24 DDH 10
B120 KB2C10 -PPM 2 CHAN 10 SEL 31 DDI 10
A122 KB3C10 -PPM 3 CHAN 10 SEL 26 DDJ 10
12 AED -T1 CLOCK
10 EER +CHAN 10 FULL
10 EES +CHAN 10 ACT
10 EET +CHAN 10 FLAG
10 EED +CHAN 10 ERROR
04
40
18
38
U164-A 10176 C40 AGTA
9 C
5 CD 2
U164-B
6 CD 3
U166 10173 A40 AGTA
7 C 9 G2 G1
3 2CD 4 1CD 5 2CD 6 1CD 10 2CD 11 1CD 12 2CD 13 1CD
NC
2 1 14 15
+BAS 2 CHAN 0-13 FULL STATUS A104 CQFUL2
+BAS 2 CHAN 0-13 ACTIVE STATUS B103 CQACT2
+BAS 2 CHAN 0-13 FLAG STATUS B108 CQFLG2
+BAS 2 CHAN 0-13 ERROR STATUS A105 CQERR2
U167 10173 B40 AGTA
7 C 9 G2 G1
3 2CD 4 1CD 5 2CD 6 1CD 10 2CD 11 1CD 12 2CD 13 1CD
NC
2 1 14 15
+BAS 3 CHAN 0-13 ACTIVE STATUS A103 CQACT3
+BAS 3 CHAN 0-13 FULL STATUS B104 CQFUL3
+BAS 3 CHAN 0-13 ERROR STATUS B105 CQERR3
+BAS 3 CHAN 0-13 FLAG STATUS A108 CQFLG3
U85-A 10101 D30
NC 12 G1
4 1 &
5 T
2
-CHAN 10 ACTIVE ADG 17
U165 10101 D42
NC 12 G1
4 1 &
7 1
10 1
13 1
5 2 T
6 3 T
14 11 T
9 15 T
+CHAN 10 FULL A045 J01MAA
+CHAN 10 ACTIVE B045 J01MAB
+CHAN 10 FLAG A046 J01MAC
+CHAN 10 ERROR FLAG B046 J01MAD
1 SHORT

CONTROL DATA	CHAN CONTROLS TYPE 1CQ0	B	DWG NO. 19268920	DATE 11/01/85
			SHEET NO. 22 60462210	PAGE CQ-22

REV A

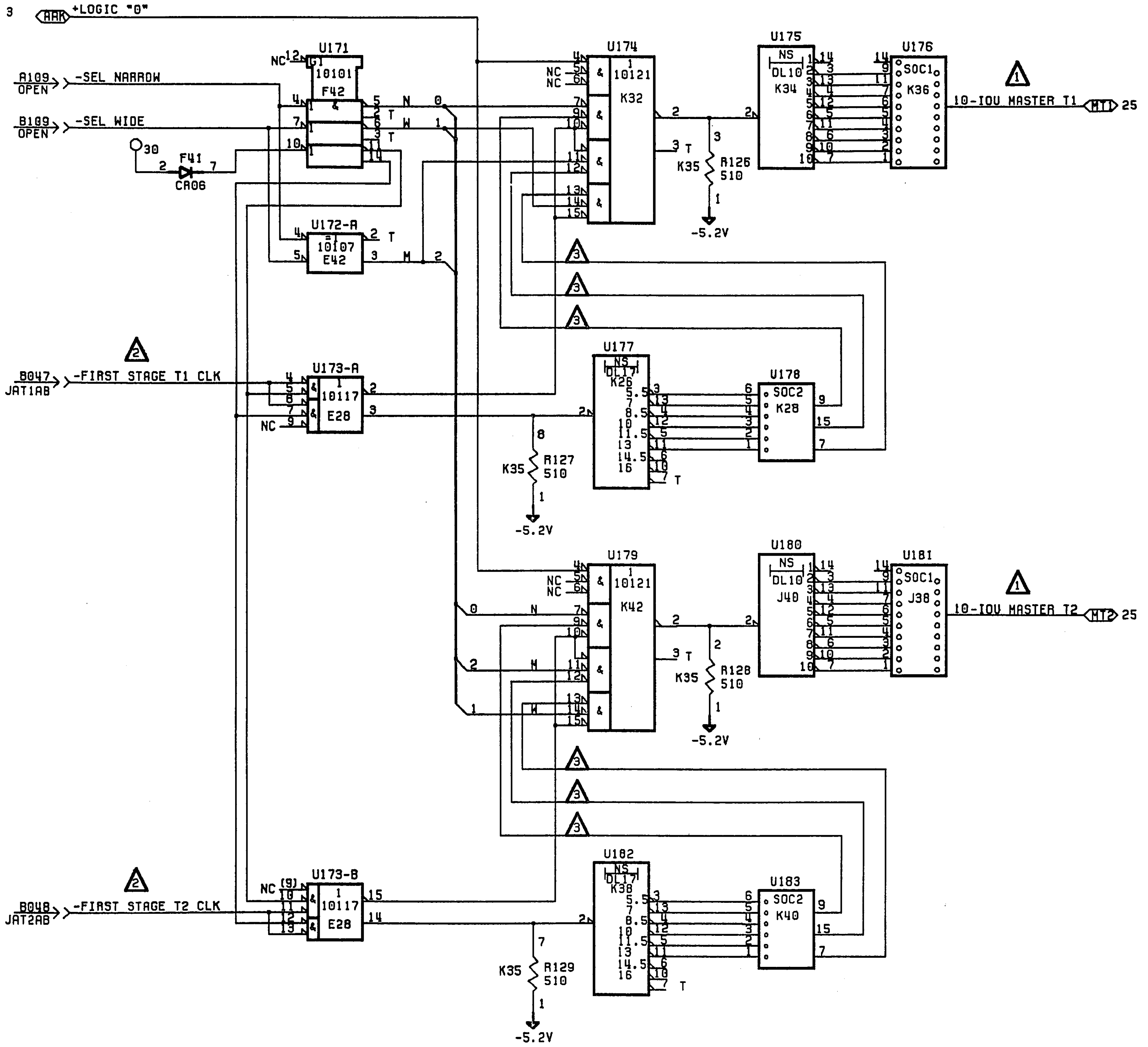
CHANNEL CONTROLS


10 EEJ -BAS 1 CHAN 0-13 FULL STATUS
-BAS 1 CHAN 0-13 FULL STATUS B127 CQFUL1
10 EEK -BAS 1 CHAN 0-13 ACT STATUS
-BAS 1 CHAN 0-13 ACT STATUS A126 CQACT1
10 EEL -BAS 1 CHAN 0-13 FLAG STATUS
-BAS 1 CHAN 0-13 FLAG STATUS A127 CQFLG1
10 EEM -BAS 1 CHAN 0-13 ERROR STATUS
-BAS 1 CHAN 0-13 ERROR STATUS A125 CQERR1
10 EEN -BAS 0 CHAN 0-13 FULL STATUS
-BAS 0 CHAN 0-13 FULL STATUS B126 CQFUL0
10 EEO -BAS 0 CHAN 0-13 ACT STATUS
-BAS 0 CHAN 0-13 ACT STATUS A123 CQACT0
10 EEP -BAS 0 CHAN 0-13 FLAG STATUS
-BAS 0 CHAN 0-13 FLAG STATUS B123 CQFLG0
10 EEQ -BAS 0 CHAN 0-13 ERROR STATUS
-BAS 0 CHAN 0-13 ERROR STATUS B125 CQERR0
1
A15 8 2 CR07
-LOGIC "0" A043 CQONAI
U168 10101 C42 NC 12 G1
B113 JW3NFA +JW3 FLAG
B112 JW2NFA +JW2 FLAG
B116 JW1NFA +JW1 FLAG
A116 JW0NFA +JW0 FLAG
4 7 10 13 5 2 6 3 11 14 9 15 T
-JW3 uCODE BIT 85 EEA 10
-JW2 uCODE BIT 85 EEB 10
-JW1 uCODE BIT 85 EEC 10
-JW0 uCODE BIT 85 EED 10
U169 10110 E30
10 EEV +ENBL BAS 3 DATA BUS 39
10 EEW +ENBL BAS 2 DATA BUS 42
5 6 7 9 10 11 NC 2 3 4 12 13 14
+ENBL BAS 3 BUS DRIVERS ADY 21
+ENBL BAS 3 BUS DRIVERS ADZ 21
+ENBL BAS 3 BUS DRIVERS AEA 21
+ENBL BAS 2 BUS DRIVERS ADX 21
+ENBL BAS 2 BUS DRIVERS ADP 21
+ENBL BAS 2 BUS DRIVERS ADQ 21
U170 10110 E26
10 EEX +ENBL BAS 1 DATA BUS 37
10 EEY +ENBL BAS 0 DATA BUS 34
+ENBL BAS 1 BUS DRIVERS ADS 20
+ENBL BAS 1 BUS DRIVERS ADT 20
+ENBL BAS 1 BUS DRIVERS ADR 20
+ENBL BAS 0 BUS DRIVERS ADU 20
+ENBL BAS 0 BUS DRIVERS ADW 20
+ENBL BAS 0 BUS DRIVERS ADV 20

1 SHORT

CONTROL DATA	CHAN CONTROLS TYPE 1CQO	B	DWG NO. 19268920	DATE 11/01/85	REV A
		N	SHEET NO. 23	60462210	PAGE CQ-23

IOU CLOCKS



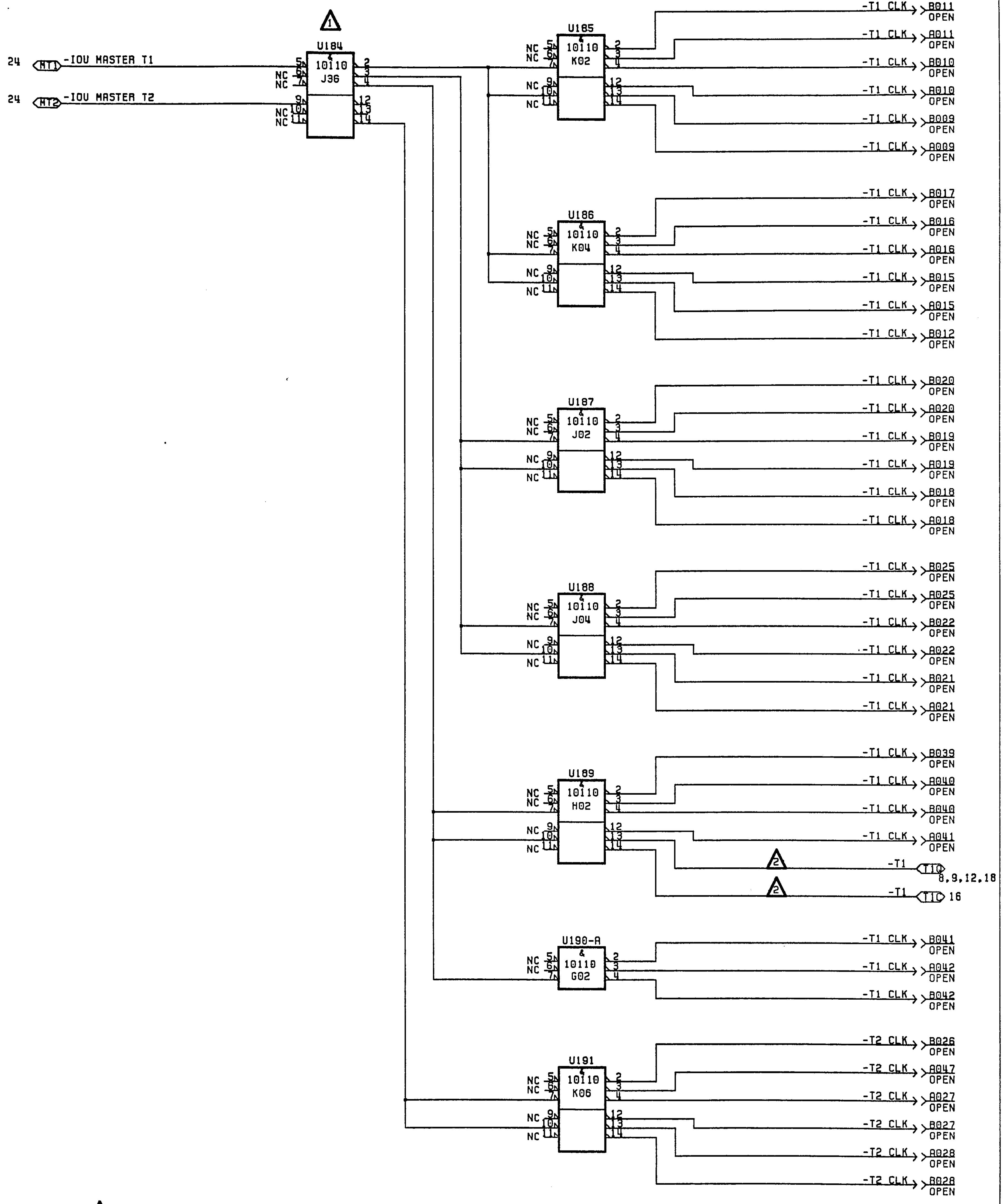
△1 SHORT

△2 FOIL LENGTHS FROM CONNECTOR PINS TO PINS 6 AND 13 OF 10117 SHOULD BE ABOUT 8 INCHES.
FOIL LENGTHS FROM PINS 6 AND 13 TO PINS 4 AND 11 MUST BE 20 INCHES.

△3 NO TERMINATION

CONTROL DATA	IOU CLK TUNING TYPE 1CQ0	B	DWG NO. 19268920	DATE 11/01/85	REV A
		SHEET NO. 24	60462210	PAGE CQ-24	

SECOND STAGE CLOCK FANOUT



1 FOIL LENGTHS MUST BE ARRANGED SO THAT THE TOTAL LENGTH OF FOIL FROM ANY OUTPUT OF THIS 10110 TO ANY SECTION OF ANOTHER 10110 PLUS THE LENGTH FROM AN OUTPUT OF THAT SECTION TO A CONNECTOR PIN MUST BE THE SAME (WITHIN 1 INCH) FOR ALL PATHS

2 FOIL LENGTHS MUST BE THE LENGTH OF THE OTHER LINES PLUS 20 INCHES

CONTROL DATA	IOU CLKS 2ND STAGE F/O TYPE 1CQ0	B	DWG NO. 19268920	DATE 11/01/85	REV A
	N	SHEET NO. 25	60462210	PAGE CQ-25	

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	,	,	27	12	-KEYBOARD INPUT
02	16	-1ST CHARACTER	28	,	,
03	13	-CHAR MUX SEL 1	29	17	-END OF CHAIN
04	22	+CH 10 FULL	30	,	,
05	16	-2ND CHARACTER	31	22	-BAS 2 CH 10 SEL
06	12	-ASCII MODE	32	18	-INPUT MUX SEL 0
07	13	-CHAR MUX SEL 0	33	11	+ACTIVE
08	11	-CH 10 PARITY ERROR	34	23	+EN BAS 0 DATA BUS
09	11	+INACTIVATE	35	17	+PRESET
10	12	-OUTSTANDING FCTN	36	18	-INPUT MUX SEL 1
11	16	-STROBE X REG	37	23	+EN BAS 1 DATA BUS
12	17	-INCR X REG	38	22	+CH 10 ERROR FLAG
13	16	+BUSY	39	23	+EN BAS 3 DATA BUS
14	22	-BAS 0 CH 10 SEL	40	22	+CH 10 ACTIVE
15	16	-DOT MODE	41	18	-CHAN REG STROBE
16	17	-INCREMENT CNTR	42	23	+EN BAS 2 DATA BUS
17	09	-Z80 SELECT	43	17	-400 nSEC PAINT DOT
18	22	+CH 10 FLAG	44	18	+ENABLE DSC DATA
19	16	-STROBE Y REG	45	12	-STROBE S REG
20	08	-1 MHZ CLOCK	46	05	-VERT 1
21	08	+KEYBOARD BUFF FULL	47	05	-VERT 2
22	17	-HLD POSITION CHAIN	48	05	-HORIZ 2
23	08	-DEADSTART BUTTON	49	05	-HORIZ 1
24	22	-BAS 1 CH 10 SEL	50	09	+FULL TO CH 10
25	17	-CHARACTER MODE	51	12	+INACTIVATE CH 10
26	22	-BAS 3 CH 10 SEL	52	17	+EMPTY

CONNECTOR PINS	
GND	A014,B014,A024,B024,A034,B034,A054,B054,A065,B065,A066,B066,A077,B077,A097,B097,A107,B107,A117,B117
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	A070,B070,A061,B061
TERM	NONE
UNUSED	B043,A049,B049,A050,B050,A051,A076,A101

CONTROL DATA	BOARD TESTPOINTS & SIGNAL NAMES TYPE 1CQD	B	DWG NO. 19268920	DATE 11/01/85	REV A
		SHEET NO. 26	60462210	PAGE CQ-26	

1HKH/1JKH TWO PORT MUX BOARD

REVISION HISTORY B/M 41651900/01			
DATE	REV	DESCRIPTION OF CHANGE	INIT
11/01/85	A	CLASS A RELEASE OF LOGIC DIAGRAMS	
		WITH ECO #46886 INSTALLED	RVU
04/03/86	B	ECO #47437 PAGE 3	LHJ
04/08/86	C	ECO #47450 PAGES 7, 11, 20, 22, & 29.	LHJ
06/04/86	D	ECO #47741 ADDS NOTE 29 TO PAGE 7.	LHJ
01/26/87	E	ECO #48478 PAGES 7 & 20	LHJ
04/23/87	F	ECO #48633 PAGE 22	SLP
06/07/88	G	ECO #49503 PAGES 7, 9 & 18	SLP

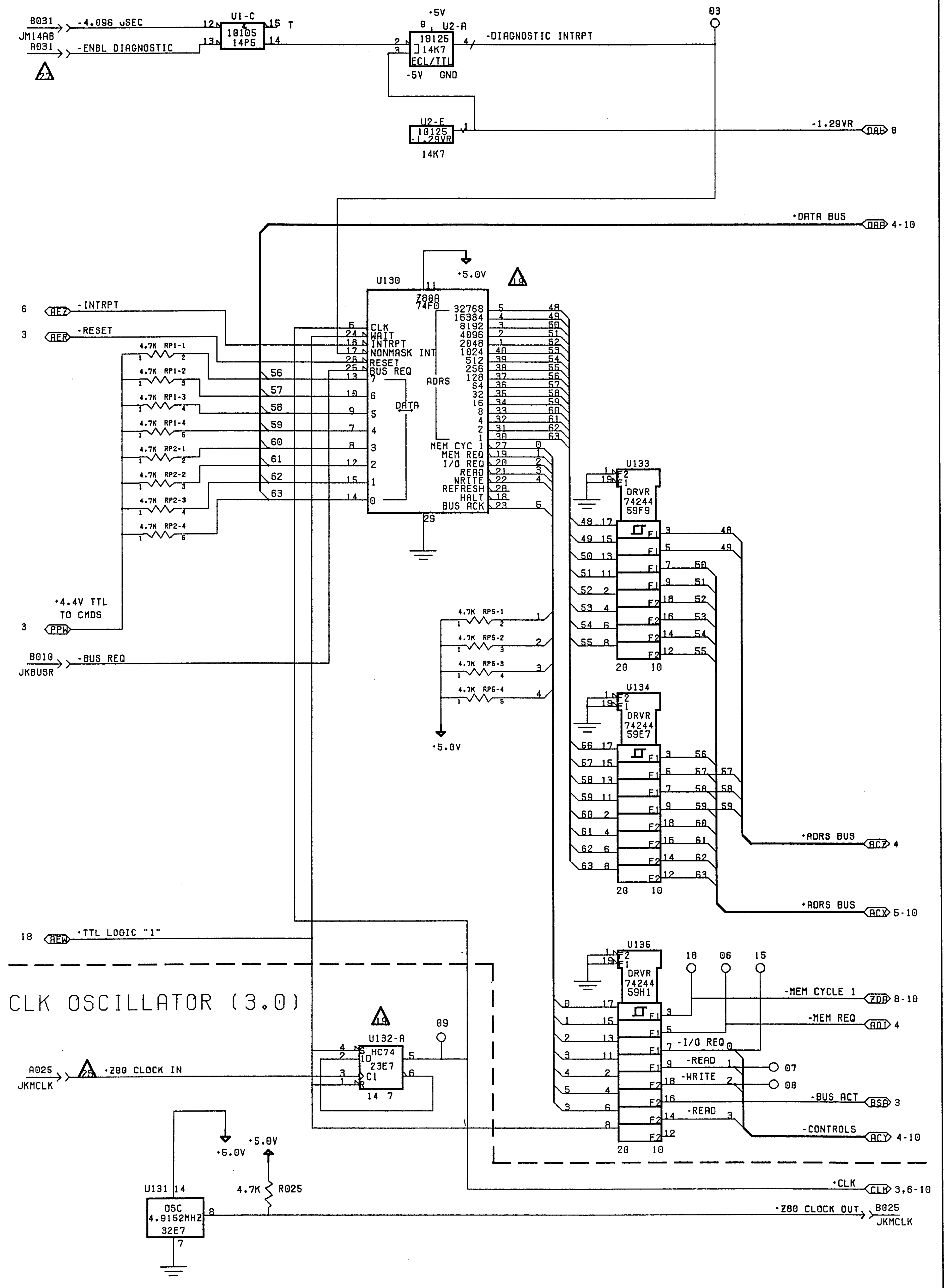
DWN	L. H. JOHNSON	11/01/85
CHKD	D. R. FORD	12/04/85
ENG	R. V. URNESS	12/09/85
PUBS	R. K. BONDE	12/10/85
APP	R. V. URNESS	12/09/85

NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

LOC: B23

CONTROL DATA	REVISION HISTORY TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		SHEET NO. 1	60462210	PAGE JK-01	

Z80 CPU AND BUS DRIVERS (3.0)



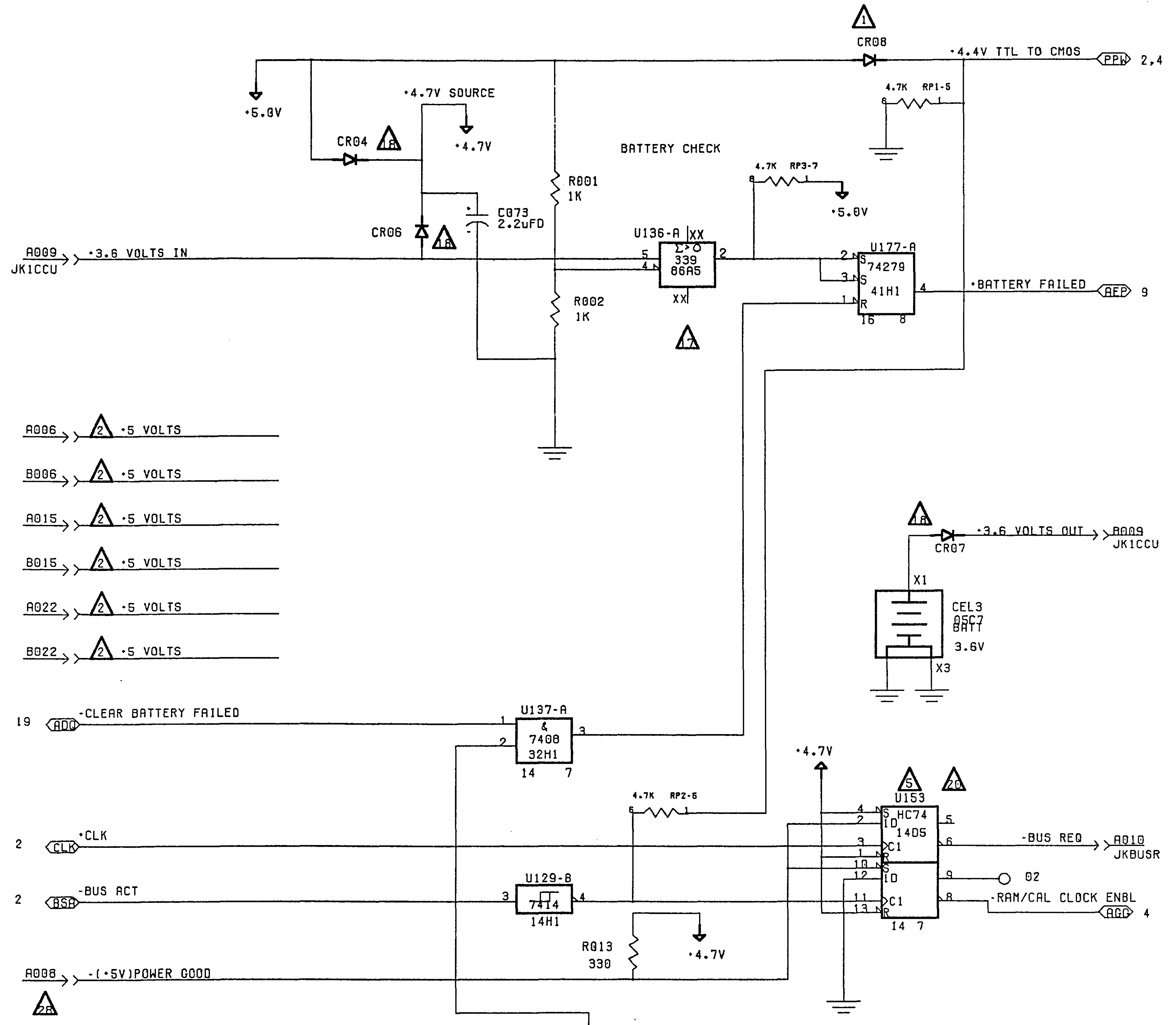
19 CONNECT 0.1uf CAP BETWEEN THE +5V AND GND PINS AND AS CLOSE TO THE PINS AS POSSIBLE

27 WIRE FROM I4 SWITCH BOX, SEE W/L & W/D PN 53575593

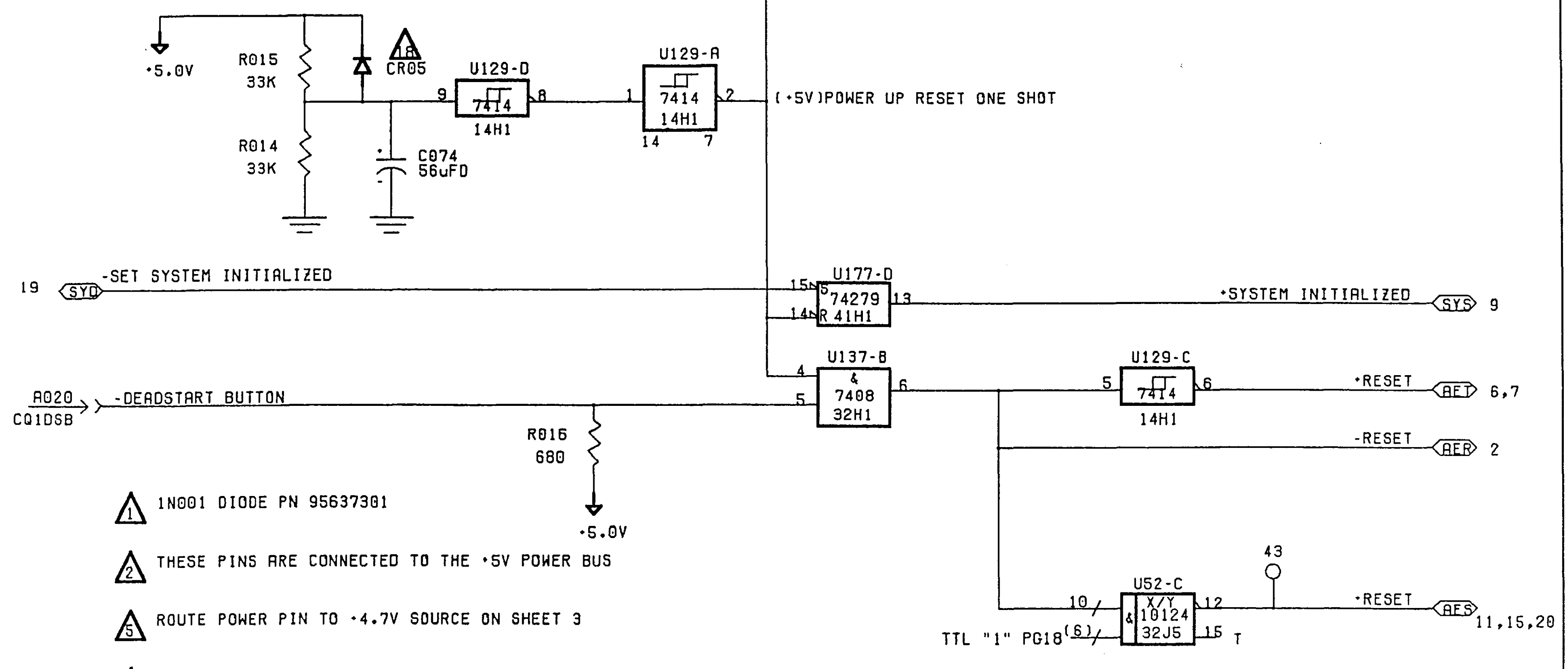
25 PAK TESTER FEEDS CLOCK AT A025

CONTROL DATA	TWO PORT MUX BOARD CLOCK OSCILLATOR Z80 CPU AND BUS DRIVERS TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		N	SHEET NO. 2	60462210	PAGE JK-02

BATTERY CIRCUIT (3.1)



Z80 AND TPM RESET



1 1N001 DIODE PN 95637301

2 THESE PINS ARE CONNECTED TO THE +5V POWER BUS

5 ROUTE POWER PIN TO +4.7V SOURCE ON SHEET 3

17 ON 339 PIN 3 = +5 VOLTS(Vcc), PIN 12 = GRND

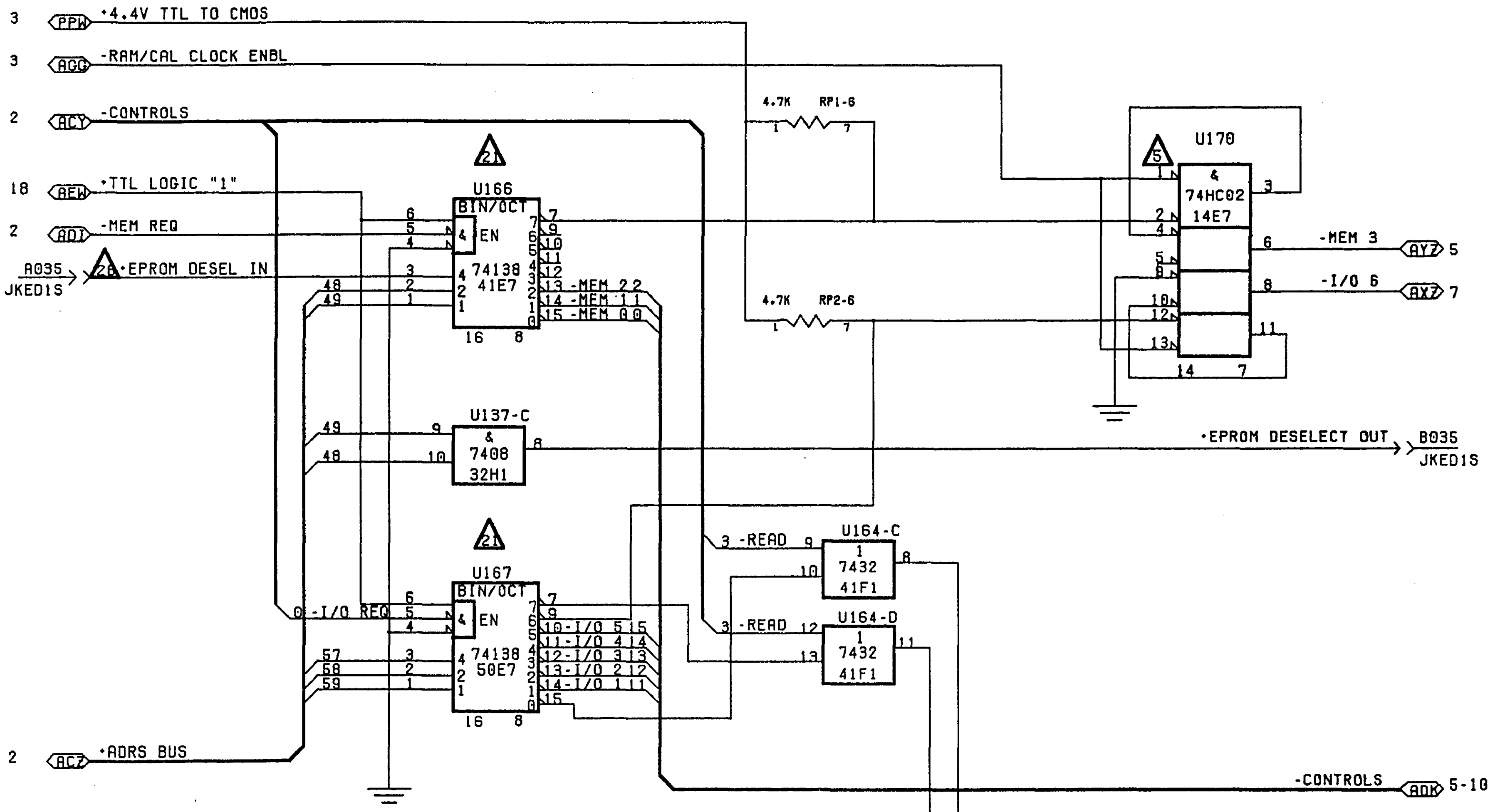
18 SCHOTTKY DIODE PN 12081500

20 CONNECT 0.1uf CAP BETWEEN THE POWER AND GND PINS AND AS CLOSE TO THE PINS AS POSSIBLE

28 WIRE FROM POWER DISTRIBUTION SYSTEM

CONTROL DATA	TWO PORT MUX BOARD BATTERY CIRCUIT Z80 AND TPM RESET TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		SHEET NO. 3	60462210	PAGE JK-03	

ADRS DCDR (3.0)

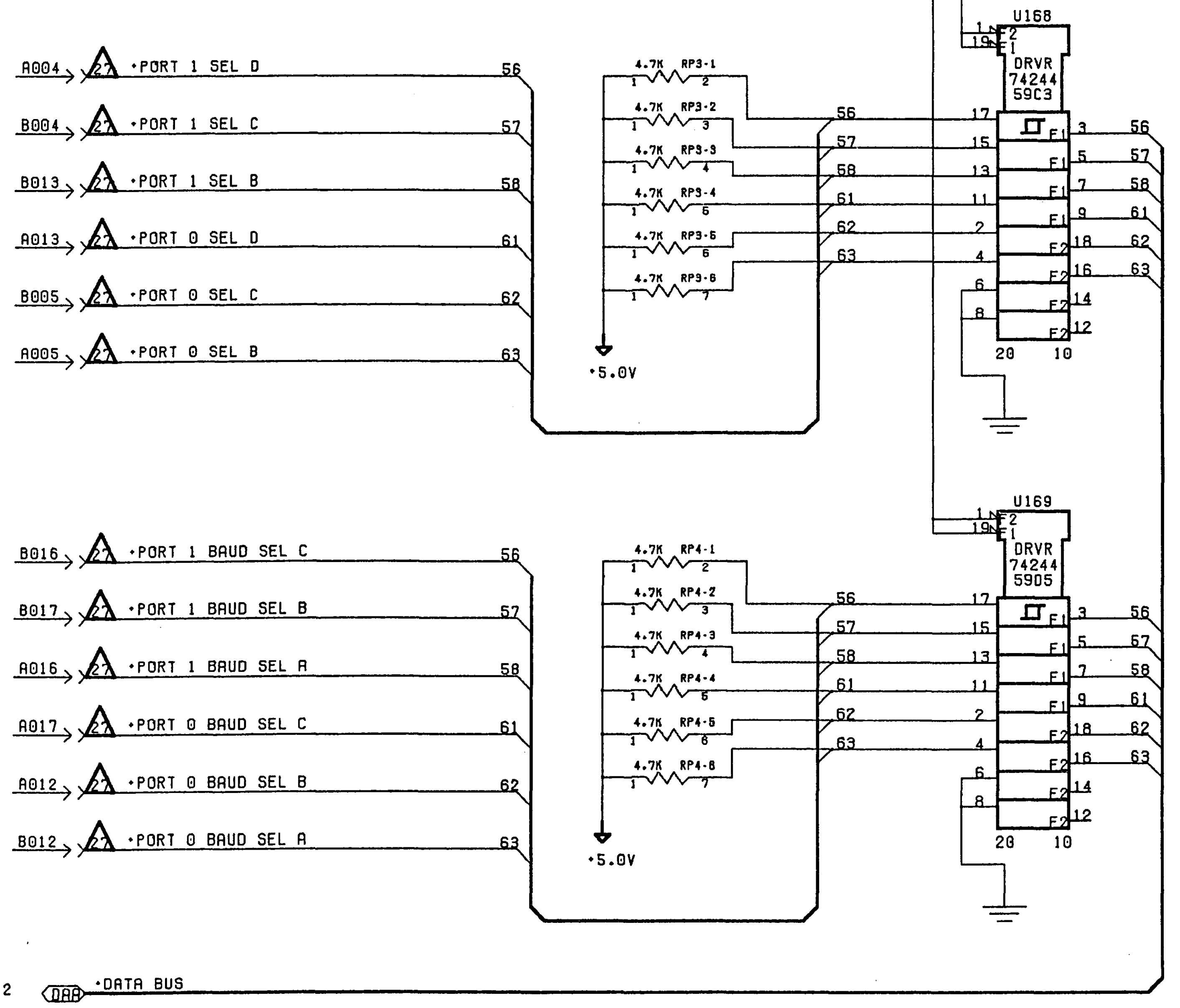


5 ROUTE PWR PIN 14 TO +4.7V SOURCE ON PG3

21 CONNECT ONE 0.1uf CAP BETWEEN +5V AND GND AND AS NEAR THE PWR AND GND PINS ON THESE CHIPS AS POSSIBLE

26 PAK TESTER FEEDS "TTL LOGIC 1" AT A035 TO DISABLE EPROMS

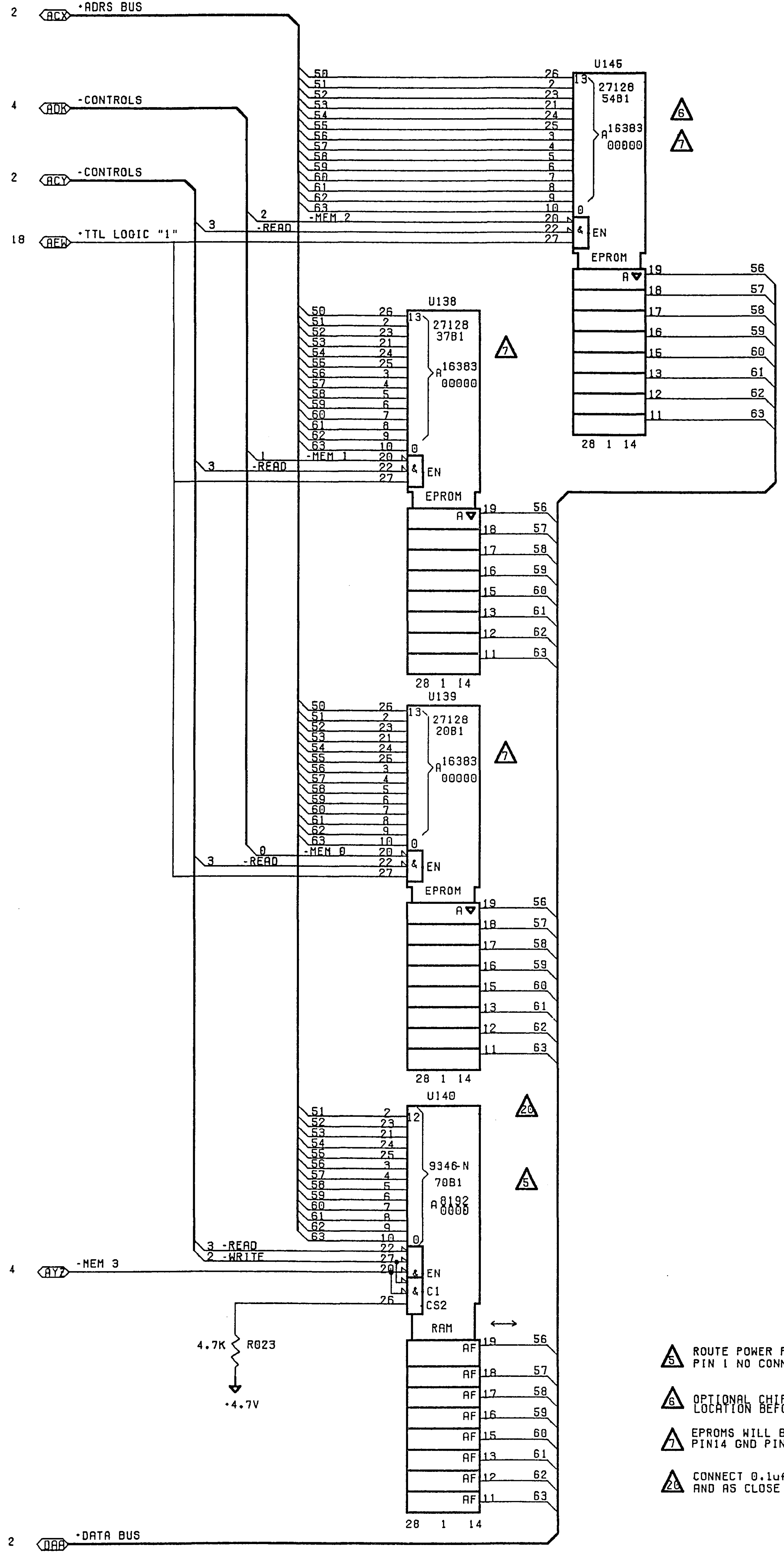
SWITCH DRIVERS (3.0)



27 WIRE FROM I4 SWITCH BOX, SEE W/L & W/D PN 53575593

CONTROL DATA	TWO PORT MUX BOARD ADDRESS DECODER AND SWITCH DRIVERS TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
	N	SHEET NO. 4	60462210	PAGE JK-04	

EPROMS AND RAM (3.0)



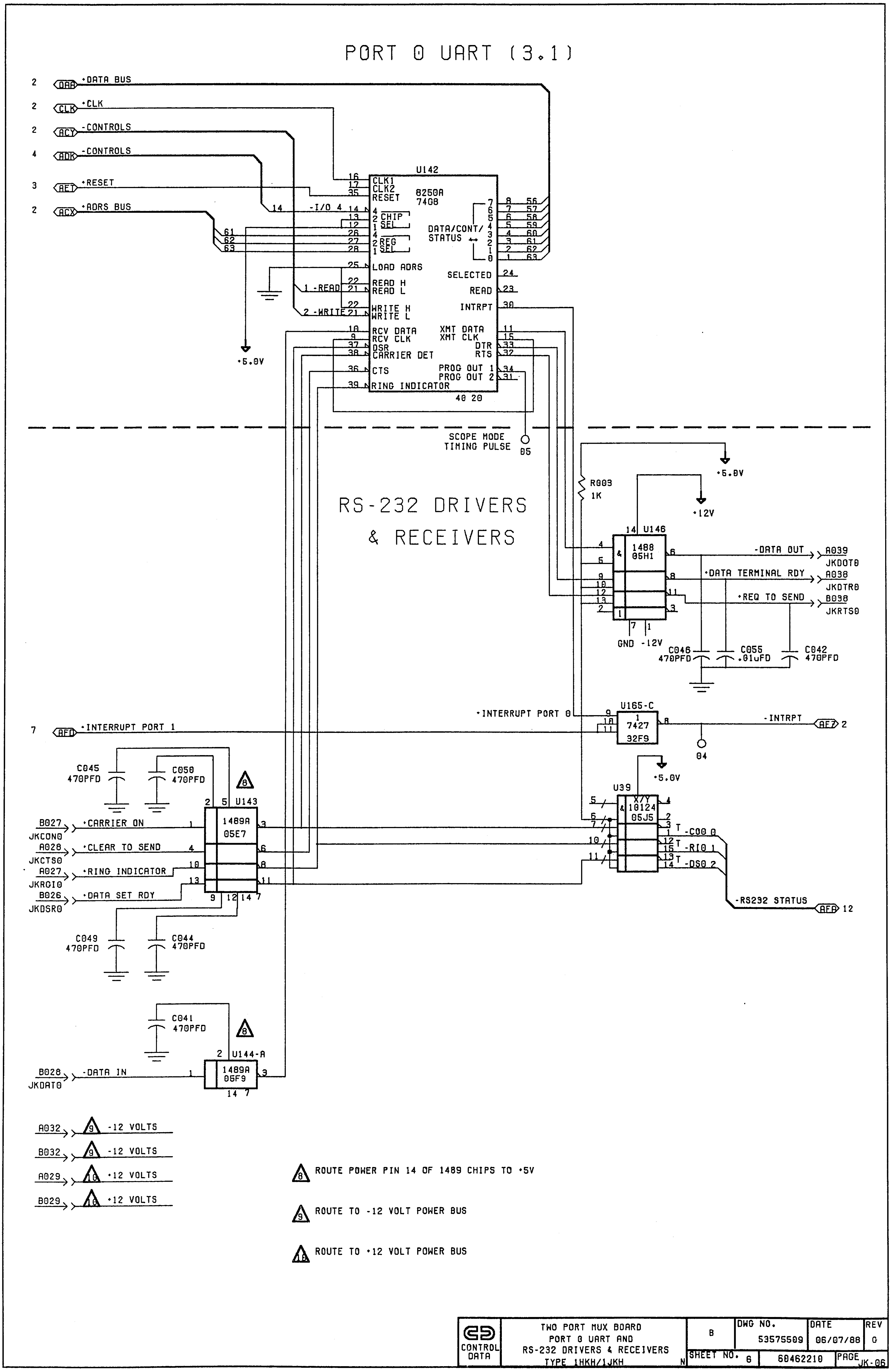
5 ROUTE POWER PIN 28 TO •4.7V SOURCE ON SHEET 3 PIN 1 NO CONNECTION AND PIN 14 GND

6 OPTIONAL CHIP - ROUTE ADDRESS & DATA BUS TO THIS LOCATION BEFORE 1 EPROM AND AFTER THE RAM

7 EPROMS WILL BE MOUNTED ON CHIP CARRIERS PIN14 GND PIN 1 & 28 •5V

20 CONNECT 0.1uf CAP BETWEEN THE PWR AND GND AND AS CLOSE TO THE PINS AS POSSIBLE

CONTROL DATA	TWO PORT MUX BOARD EPROMS AND RAM	B	DWG NO. 53575509	DATE 06/07/88	REV G
	TYPE 1HKH/1JKH	N	SHEET NO. 5	60462210	PAGE JK-05

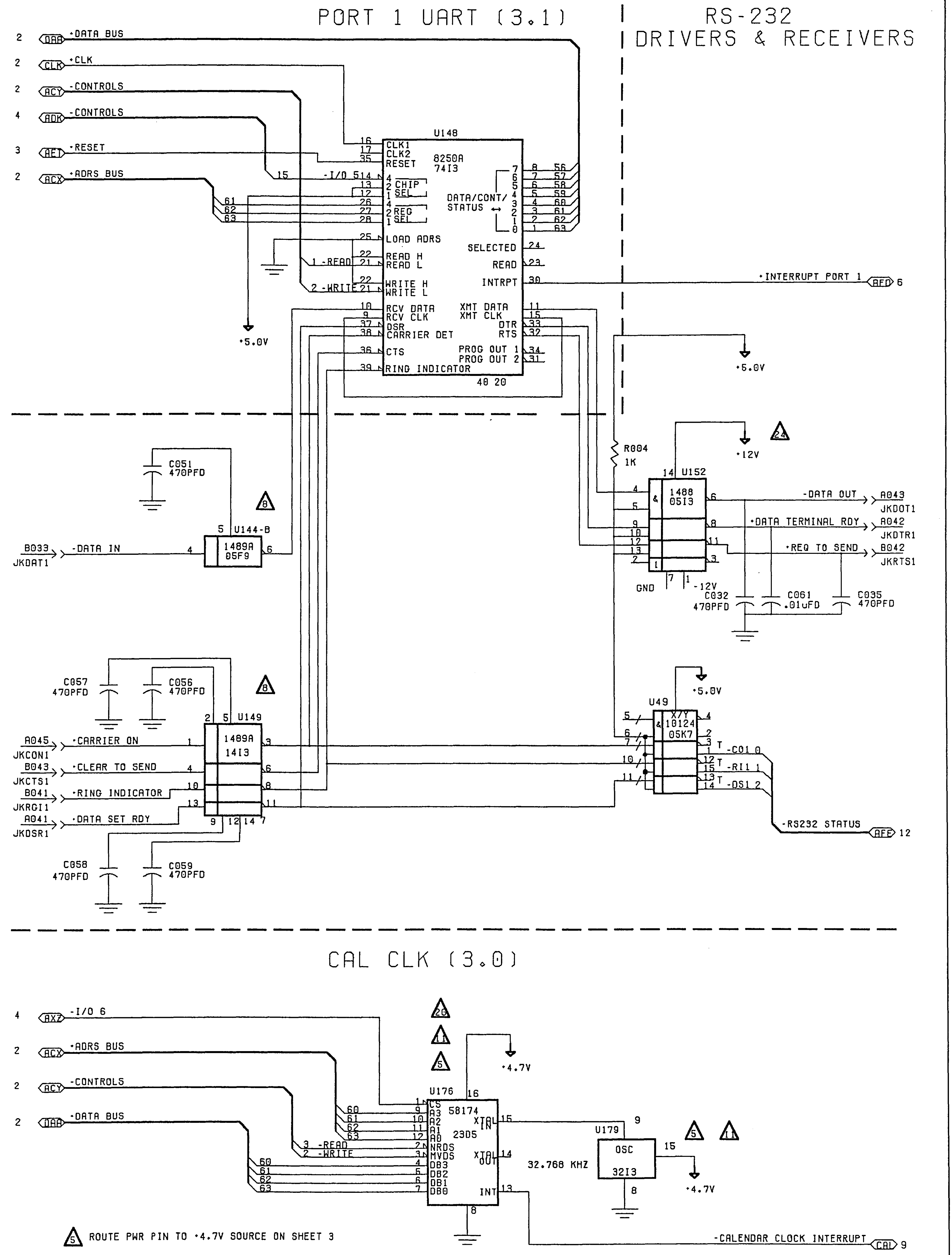


8 ROUTE POWER PIN 14 OF 1489 CHIPS TO +5V

9 ROUTE TO -12 VOLT POWER BUS

10 ROUTE TO +12 VOLT POWER BUS

CONTROL DATA	TWO PORT MUX BOARD PORT 0 UART AND RS-232 DRIVERS & RECEIVERS TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		SHEET NO. 6	60462210	PAGE JK-06	



△5 ROUTE PWR PIN TO +4.7V SOURCE ON SHEET 3

△8 ROUTE PWR PIN OF 1489 CHIPS TO +5V

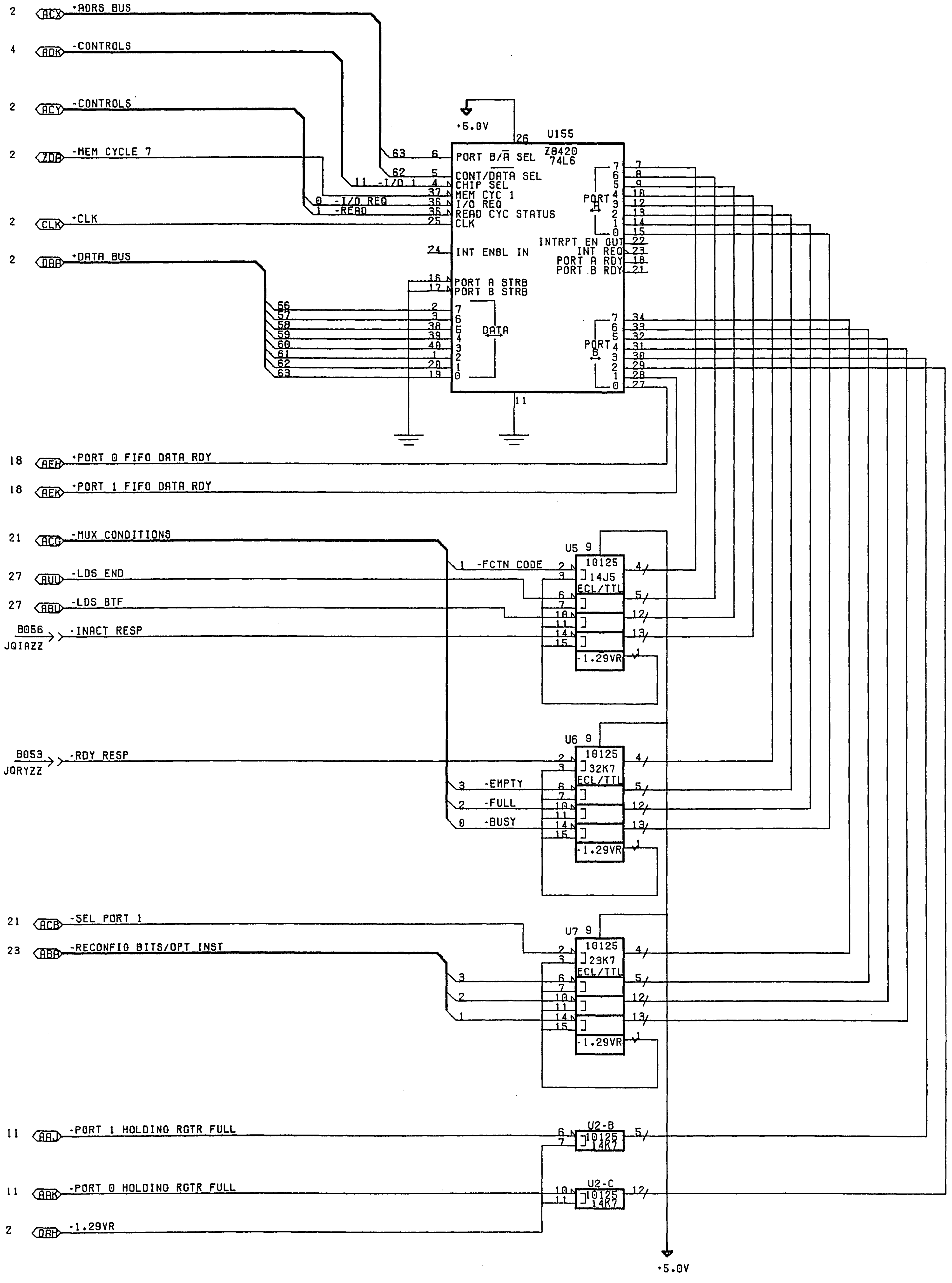
△11 LOCATE ALL THESE COMPONENTS FOR CLOCK SECTION CLOSE TOGETHER

△20 CONNECT 0.1uf CAP BETWEEN PINS PWR AND GND AND AS CLOSE TO THE PINS AS POSSIBLE

△24 CONNECT 0.1uf CAP BETWEEN +12V AND GND

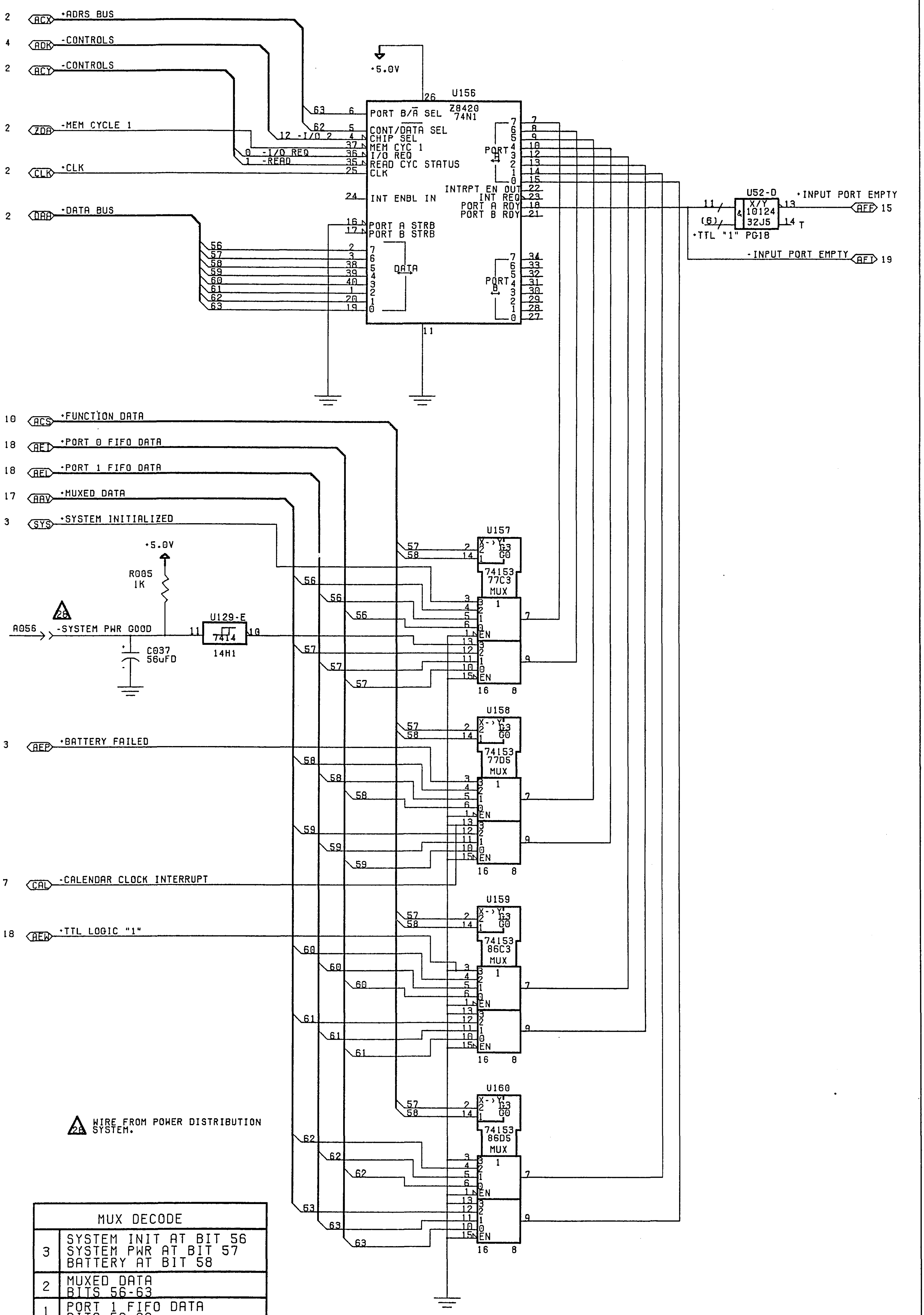
CONTROL DATA	TWO PORT MUX BOARD PORT 1 UART, RS232 DRIVERS AND RECEIVERS AND CALENDAR CLOCK TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		SHEET NO. 7	60462210	PAGE JK-07	

STATUS INPUT PORTS (3.1)



CONTROL DATA	TWO PORT MUX BOARD STATUS INPUT PORTS TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
			SHEET NO. 8	60462210	PAGE JK-08

DATA INPUT PORT



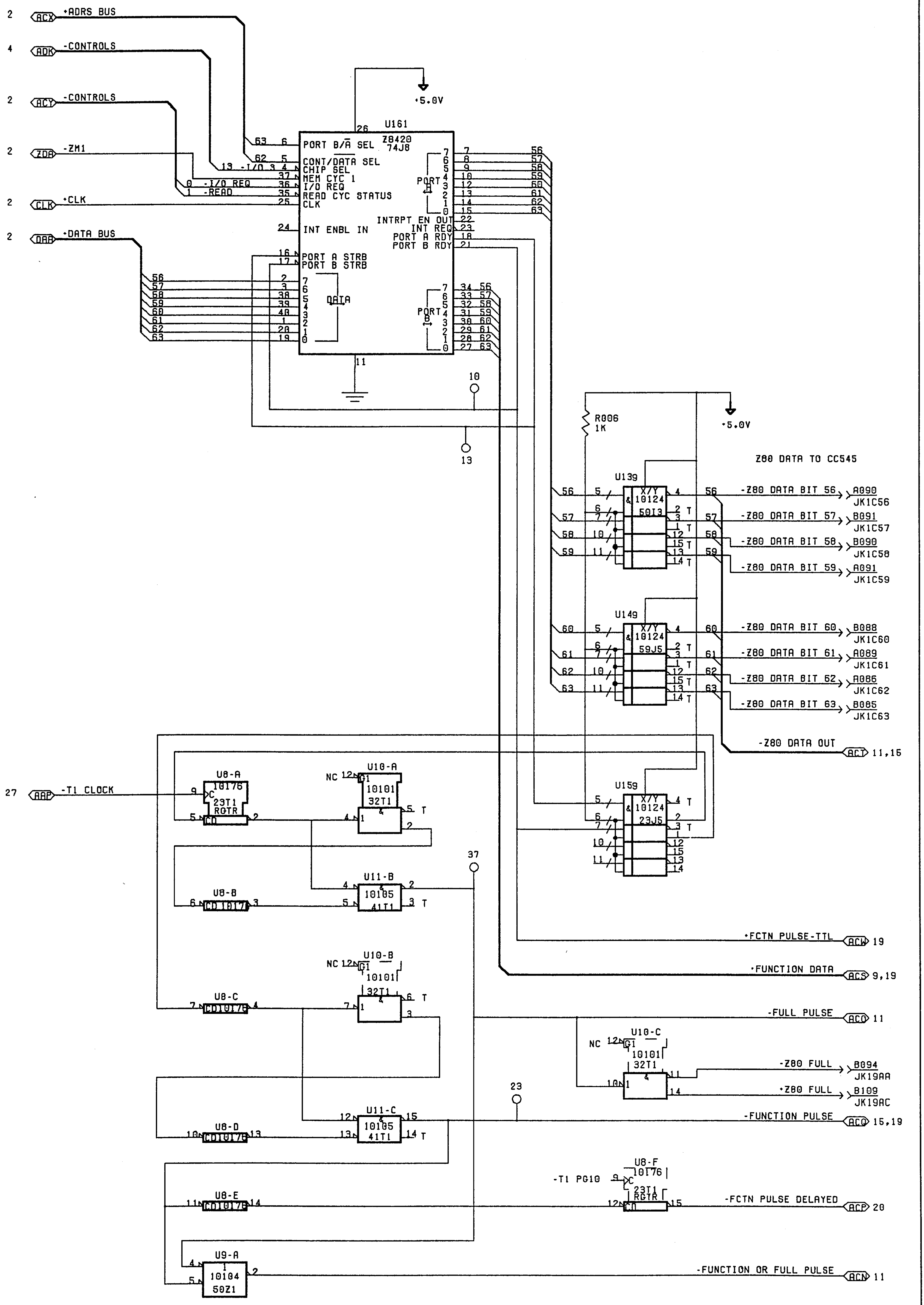
MUX DECODE	
3	SYSTEM INIT AT BIT 56 SYSTEM PWR AT BIT 57 BATTERY AT BIT 58
2	MUXED DATA BITS 56-63
1	PORT 1 FIFO DATA BITS 56-63
0	PORT 0 FIFO DATA BITS 56-63

CONTROL DATA

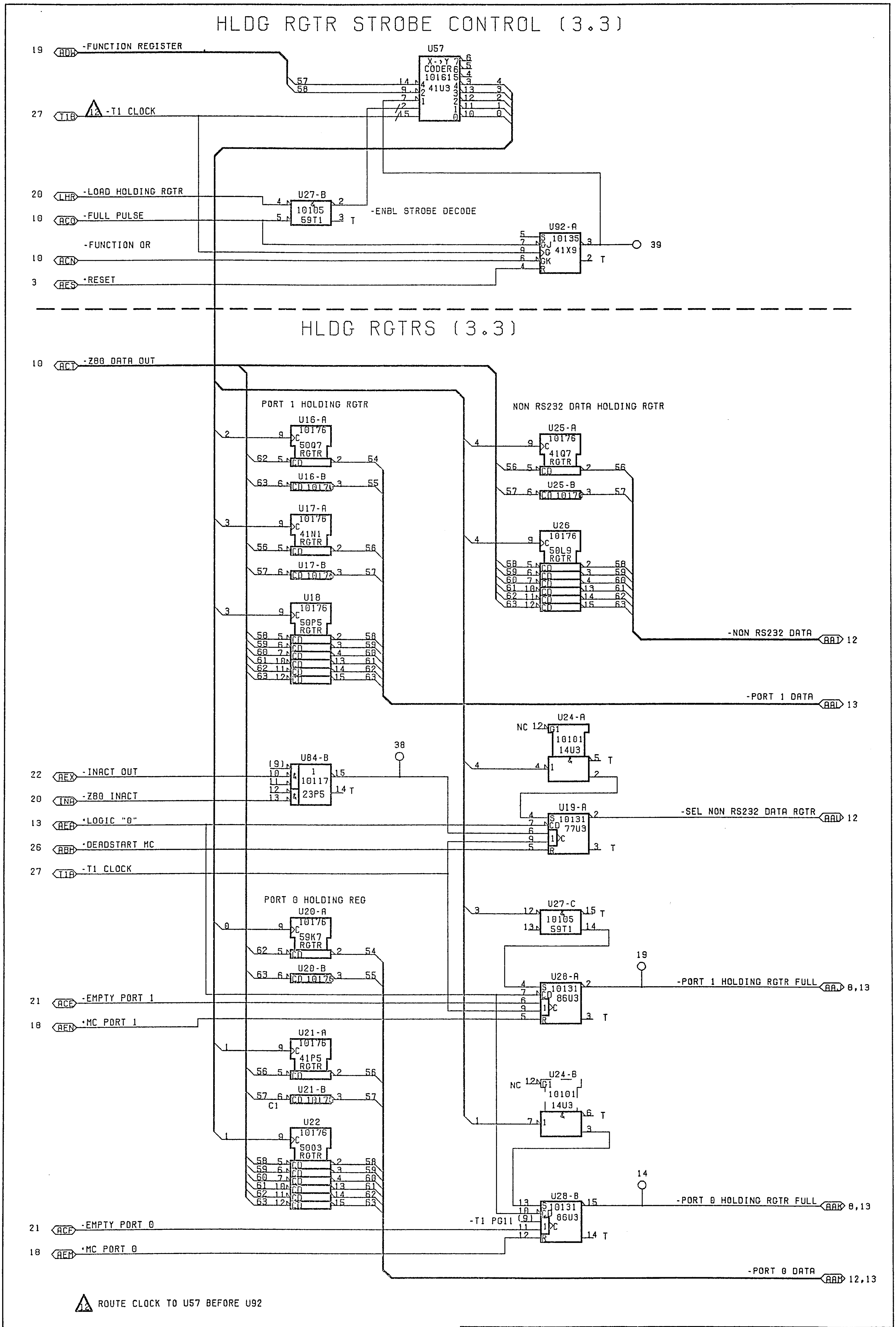
TWO PORT MUX BOARD
DATA INPUT PORT
TYPE 1HKH/1JKH

B	DWG NO. 53575509	DATE 06/07/88	REV G
SHEET NO. 9	60462210	PAGE JK-09	

FCTN & DATA OUT PORTS (3.1)

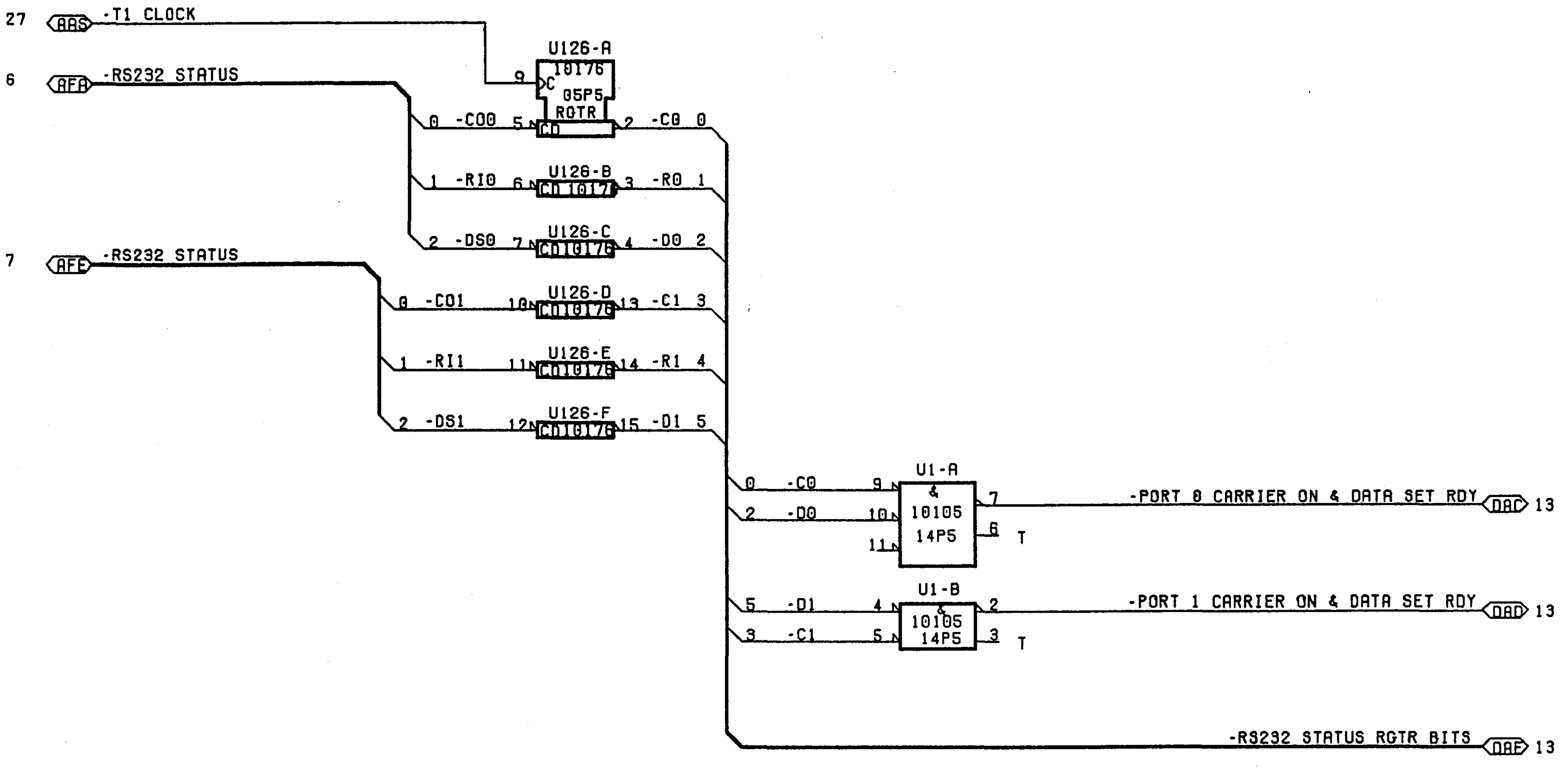


CONTROL DATA	TWO PORT MUX BOARD FUNCTION & DATA OUTPUT PORTS TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV C
		SHEET NO. 10	60462210	PAGE JK-10	

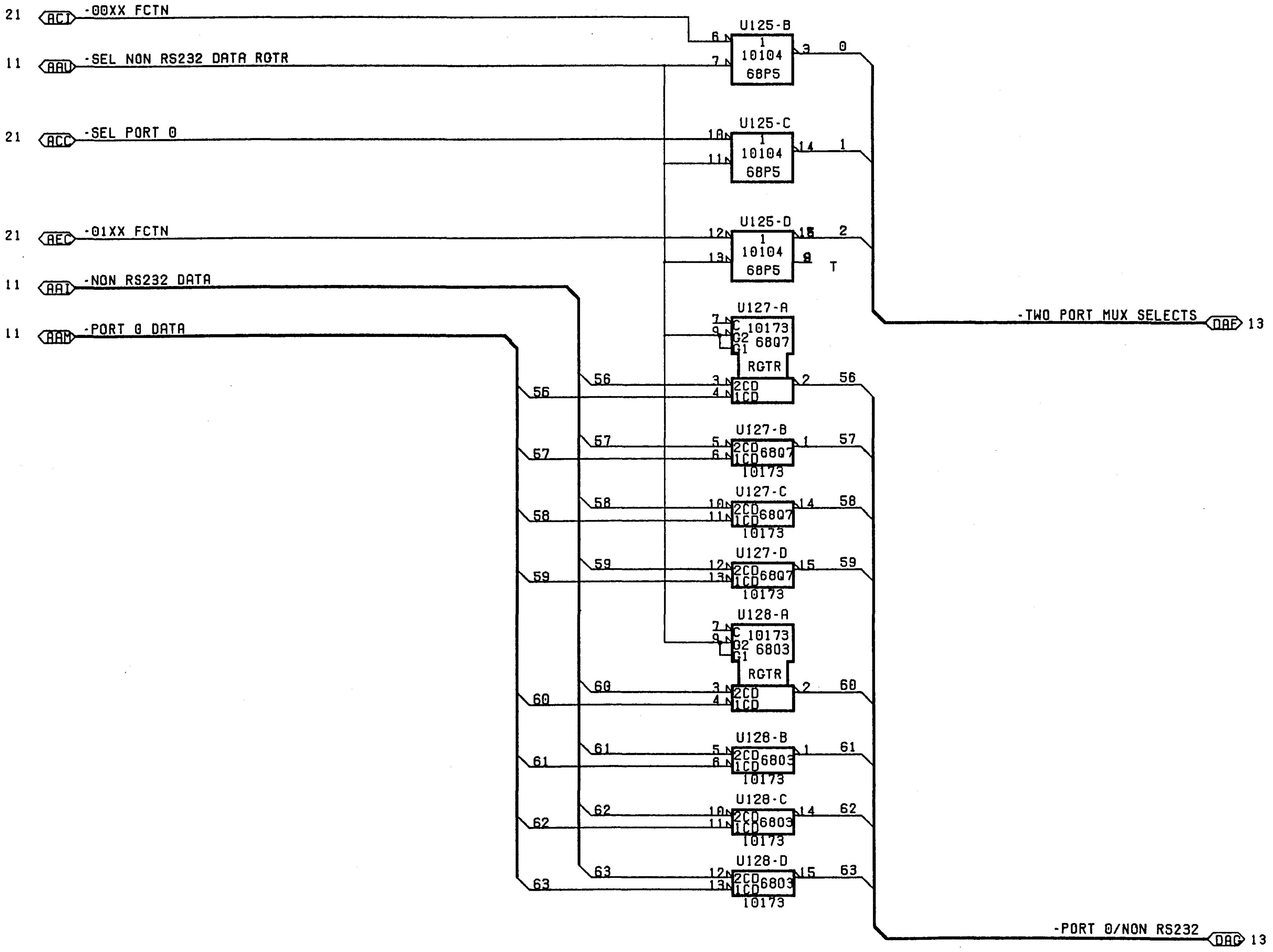


CONTROL DATA	TWO PORT MUX BOARD HOLDING REGISTERS AND HOLDING REGISTER STROBE CONTROL TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		N	SHEET NO. 11	60462210	PAGE JK-11

RS232 STATUS RGTR (3.1)

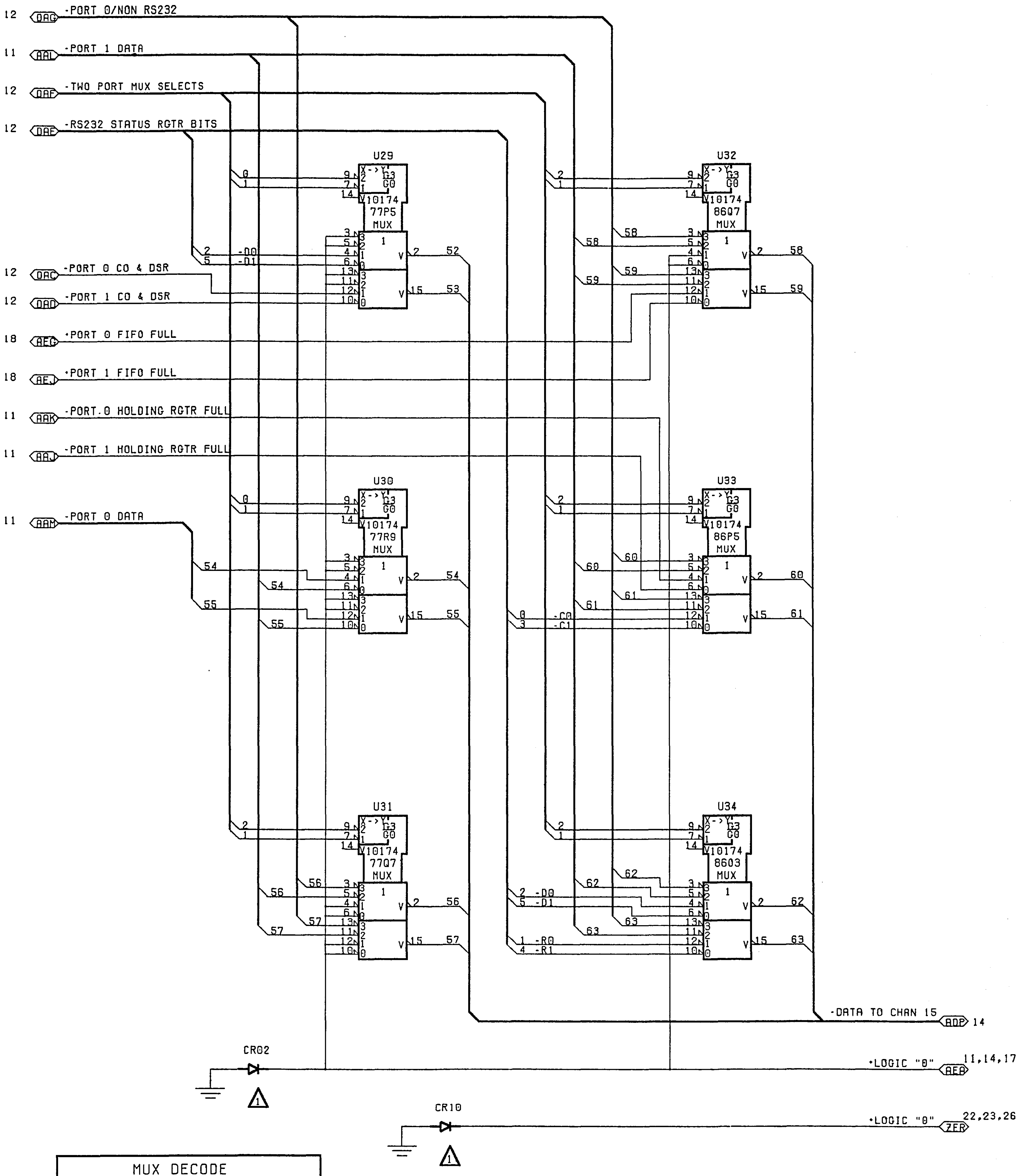


NON RS232 DATA & PORT 0 DATA MUX (3.3)



CONTROL DATA	TWO PORT MUX BOARD RS232 STATUS REGISTER NON-RS232 & PORT 0 DATA MUX TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		N	SHEET NO. 12	60462210	PAGE JK-12

·TPM / STATUS / DATA MUX (3.4)



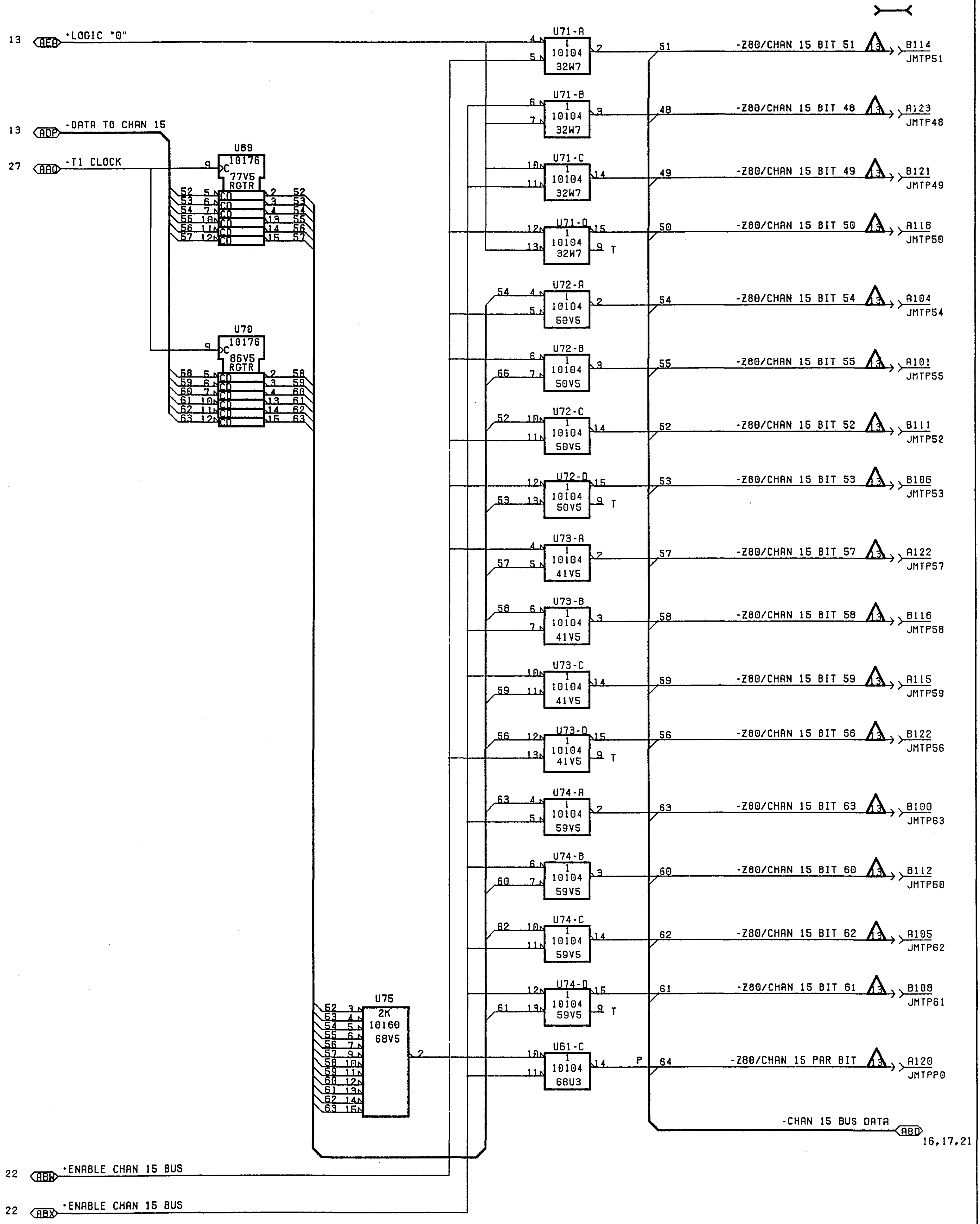
MUX DECODE	
3	PORT 0/NON RS232 DATA
2	PORT 1 DATA
1	PORT 0 STATUS
0	PORT 1 STATUS

1 1N001 DIODE PN 95637301

CONTROL DATA
TWO PORT MUX BOARD
TWO PORT MUX / STATUS / DATA MUX
TYPE 1HKH/1JKH

B	DWG NO. 53575509	DATE 06/07/88	REV G
SHEET NO. 13	60462210	PAGE JK-13	

CHAN 15 BUS DRIVER (3.4)


13 AEB +LOGIC "0"
13 ADP -DATA TO CHAN 15
27 AAQ -T1 CLOCK
U69 10176 77V5 RGTR
U70 10176 86V5 RGTR
U71-A 10104 32W7
U71-B 10104 32W7
U71-C 10104 32W7
U71-D 10104 32W7
U72-A 10104 50V5
U72-B 10104 50V5
U72-C 10104 50V5
U72-D 10104 50V5
U73-A 10104 41V5
U73-B 10104 41V5
U73-C 10104 41V5
U73-D 10104 41V5
U74-A 10104 59V5
U74-B 10104 59V5
U74-C 10104 59V5
U74-D 10104 59V5
U75 2K 10160 68V5
U61-C 10104 68U3
-Z80/CHAN 15 BIT 51 B114 JMTP51
-Z80/CHAN 15 BIT 48 A123 JMTP48
-Z80/CHAN 15 BIT 49 B121 JMTP49
-Z80/CHAN 15 BIT 50 A118 JMTP50
-Z80/CHAN 15 BIT 54 A104 JMTP54
-Z80/CHAN 15 BIT 55 A101 JMTP55
-Z80/CHAN 15 BIT 52 B111 JMTP52
-Z80/CHAN 15 BIT 53 B106 JMTP53
-Z80/CHAN 15 BIT 57 A122 JMTP57
-Z80/CHAN 15 BIT 58 B116 JMTP58
-Z80/CHAN 15 BIT 59 A115 JMTP59
-Z80/CHAN 15 BIT 56 B122 JMTP56
-Z80/CHAN 15 BIT 63 B100 JMTP63
-Z80/CHAN 15 BIT 60 B112 JMTP60
-Z80/CHAN 15 BIT 62 A105 JMTP62
-Z80/CHAN 15 BIT 61 B108 JMTP61
-Z80/CHAN 15 PAR BIT A120 JMTPP0
-CHAN 15 BUS DATA ABD 16,17,21
22 ABW +ENABLE CHAN 15 BUS
22 ABX +ENABLE CHAN 15 BUS

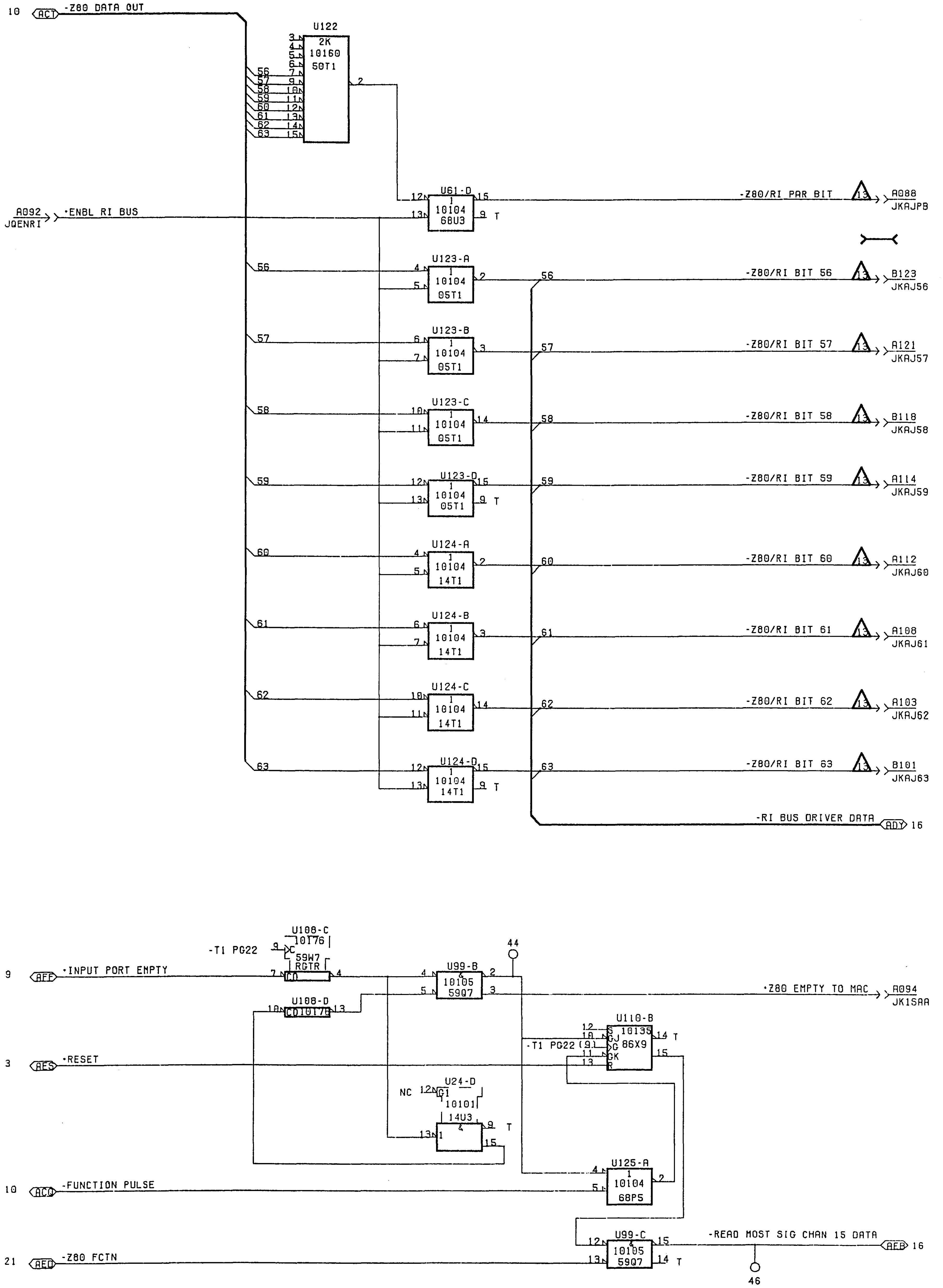
13 TERMINATE AT THE END FARTHEST FROM THE PIN

CONTROL DATA

TWO PORT MUX BOARD
CHANNEL 15 BUS DRIVER
TYPE 1HKH/1JKH

B	DWG NO. 53575509	DATE 06/07/88	REV G
SHEET NO. 14	60462210	PAGE JK-14	

RI BUS DRIVER (3.2)



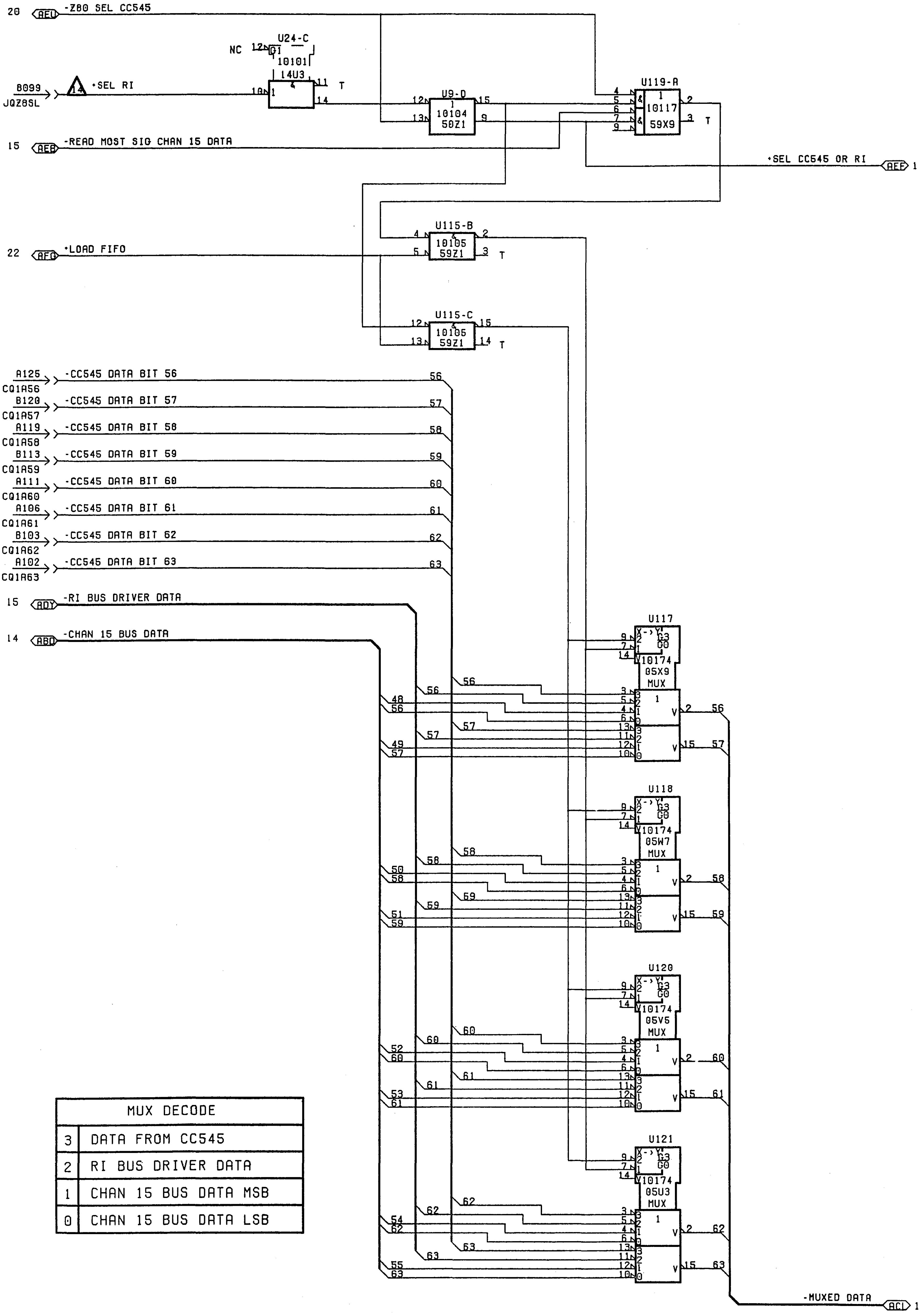
13 TERMINATE AT THE END FARTHEST FROM THE PIN

CONTROL DATA

TWO PORT MUX BOARD
RADIAL INTERFACE BUS DRIVER
TYPE 1HKH/1JKH

B	DWG NO. 53575509	DATE 06/07/88	REV G
SHEET NO. 15	60462210	PAGE JK-15	

DISPLAY CONTROLLER / RADIAL & CHAN 15 INTERFACES (3.2)


20 AEU -Z80 SEL CC545
U24-C
NC 12 Q1
10101
14U3
10 1 11 T 14
B099 JQZ85L
14 +SEL RI
U9-D 12 13 1 10104 50Z1 15 9
U119-A 4 5 6 7 9 1 10117 59X9 2 3 T
15 AEB -READ MOST SIG CHAN 15 DATA
+SEL CC545 OR RI AEF 18
U115-B 4 5 10105 59Z1 2 3 T
22 AFQ +LOAD FIFO
U115-C 12 13 10105 59Z1 15 14 T
A125 CQ1A56 -CC545 DATA BIT 56
B120 CQ1A57 -CC545 DATA BIT 57
A119 CQ1A58 -CC545 DATA BIT 58
B113 CQ1A59 -CC545 DATA BIT 59
A111 CQ1A60 -CC545 DATA BIT 60
A106 CQ1A61 -CC545 DATA BIT 61
B103 CQ1A62 -CC545 DATA BIT 62
A102 CQ1A63 -CC545 DATA BIT 63
15 ADY -RI BUS DRIVER DATA
14 ABD -CHAN 15 BUS DATA
U117 10174 05X9 MUX
U118 10174 05W7 MUX
U120 10174 05V5 MUX
U121 10174 05U3 MUX
X->Y G3 G0
48 56 49 57 50 58 51 59 52 60 53 61 54 62 55 63
-MUXED DATA ACI 17

MUX DECODE	
3	DATA FROM CC545
2	RI BUS DRIVER DATA
1	CHAN 15 BUS DATA MSB
0	CHAN 15 BUS DATA LSB

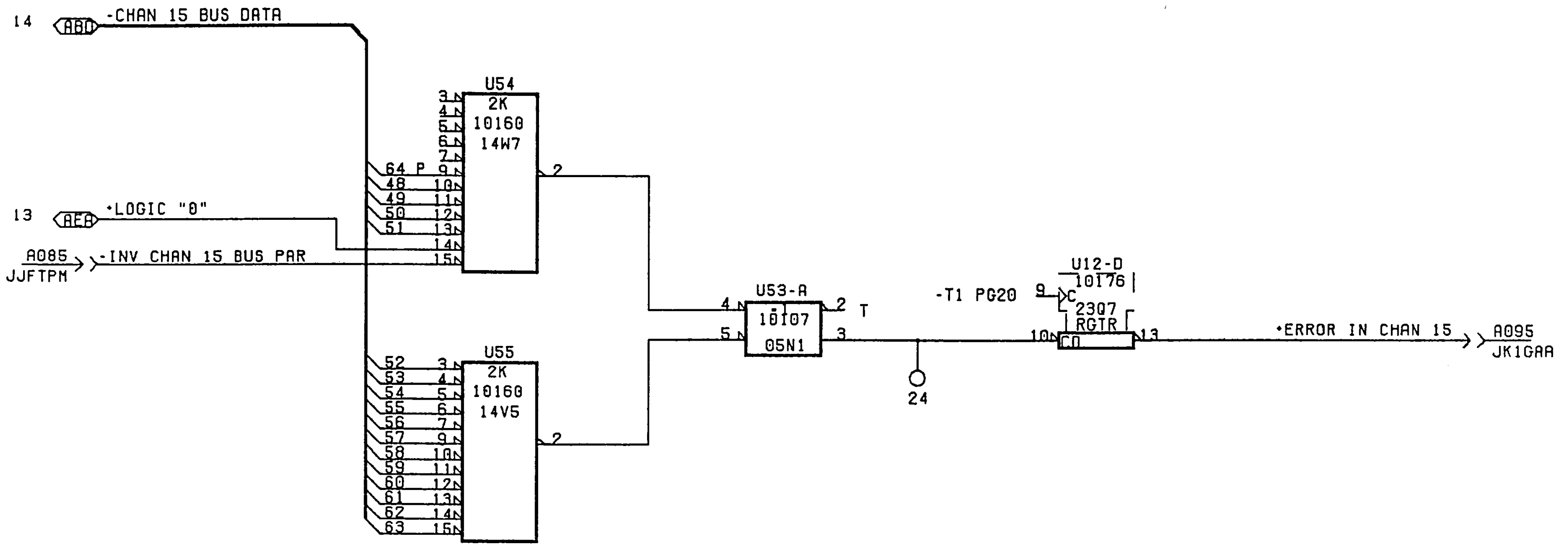
14 3" MAX LENGTH AND DO NOT TERMINATE

CONTROL DATA

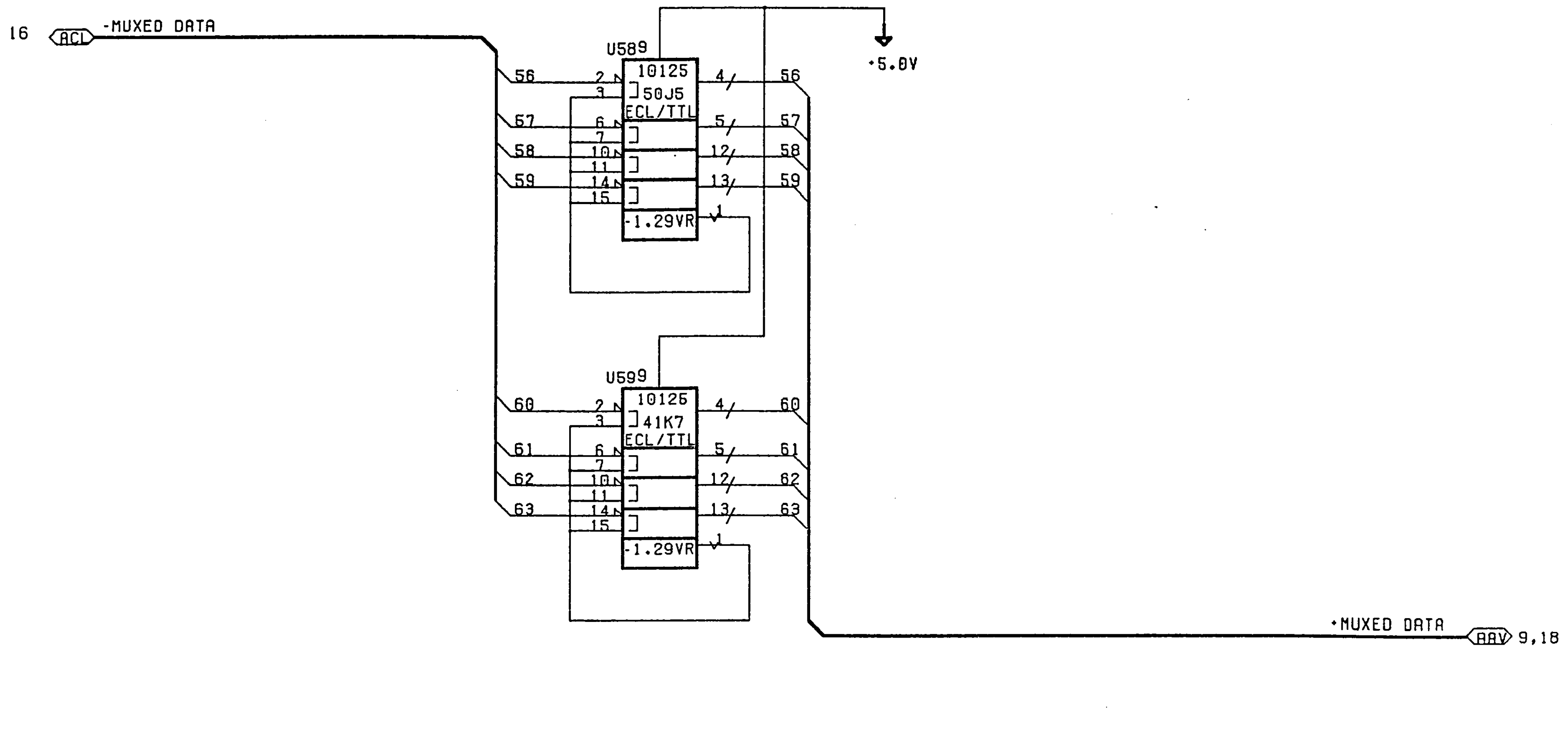
TWO PORT MUX BOARD
DISPLAY CONTROLLER
RADIAL & CHANNEL 15 INTERFACES
TYPE 1HKH/1JKH

	DWG NO.	DATE	REV
B	53575509	06/07/88	G
SHEET NO. 16	60462210	PAGE JK-16	

CHAN 15 BUS PAR CHECKER (3.4)

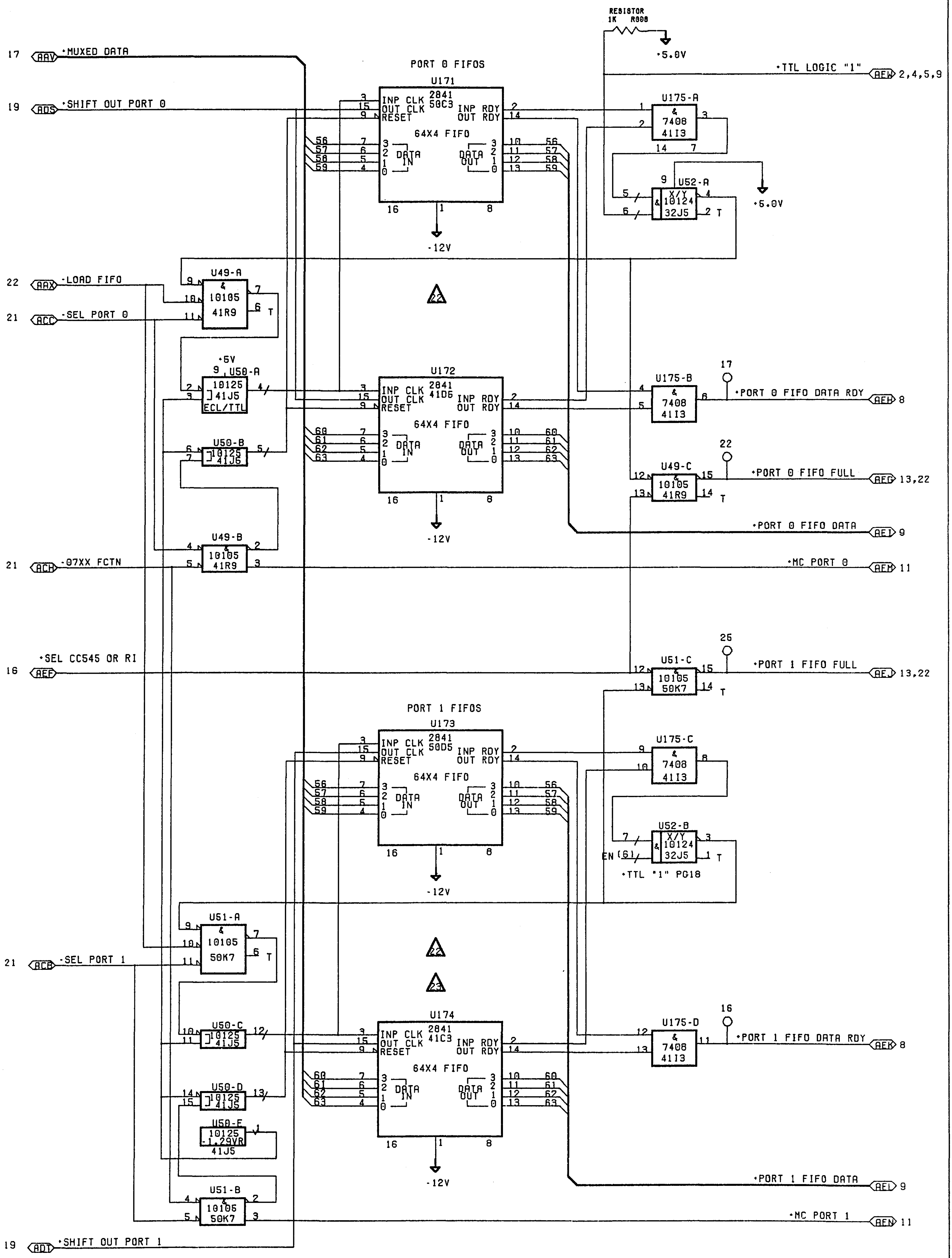


INPUT DATA ECL/TTL CONVERTER



CONTROL DATA	TWO PORT MUX BOARD CHANNEL 15 BUS PAR CHECKER INPUT DATA,ECL/TTL CONVERSION TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
			SHEET NO. 17	60462210	PAGE JK-17

CHAN 15 INPUT PORT FIFOS (3.2)

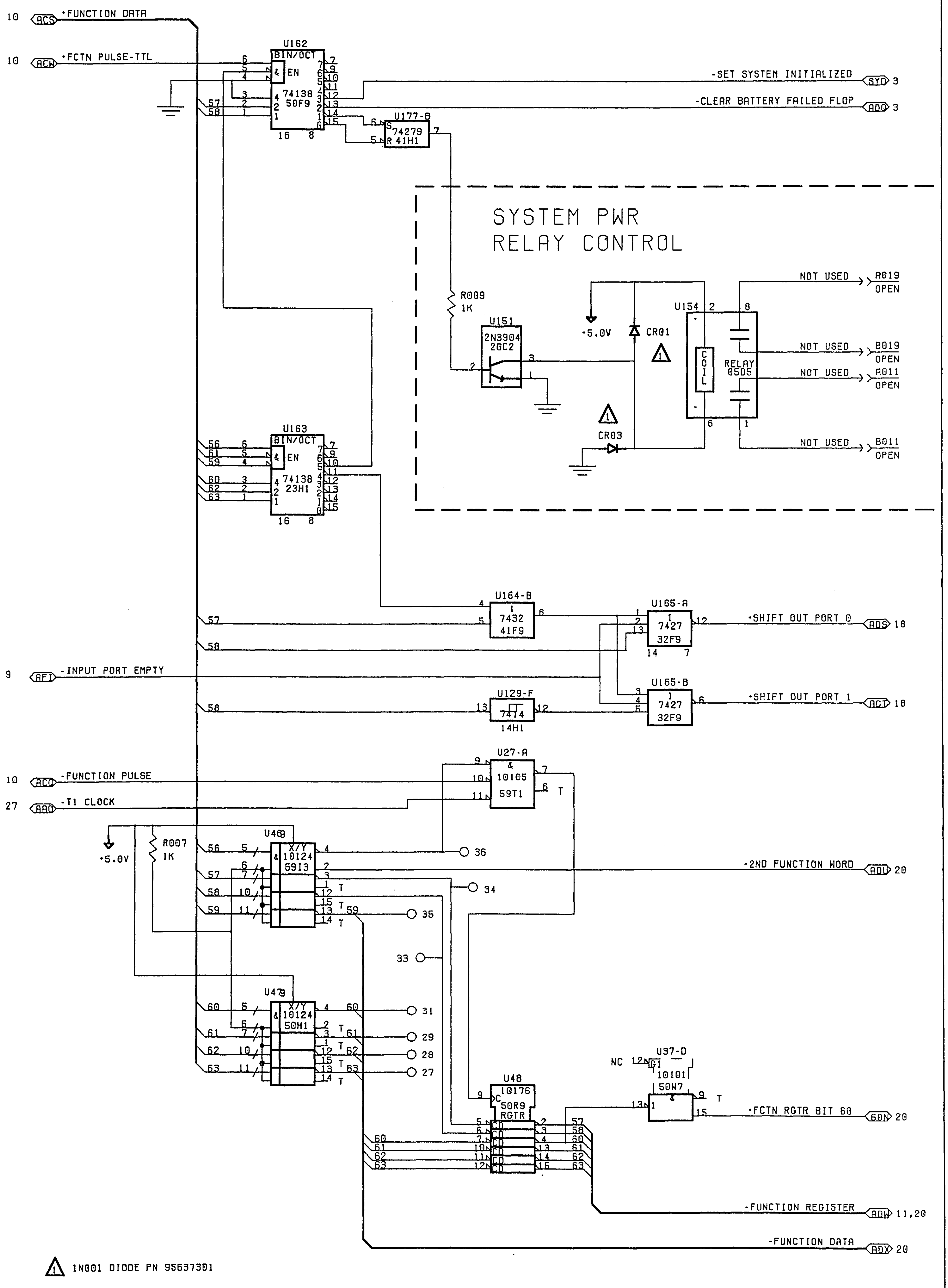


⚠22 CONNECT ONE 0.1uf CAP BETWEEN THE +5V AND GND AND AS NEAR TO PINS 8 & 16 ON THESE CHIPS AS POSSIBLE

⚠23 CONNECT ONE 0.1uf CAP BETWEEN -12V AND GND.

CONTROL DATA	TWO PORT MUX BOARD CHANNEL 15 INPUT PORT FIFOS TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		N	SHEET NO. 18	60462210	PAGE JK-18

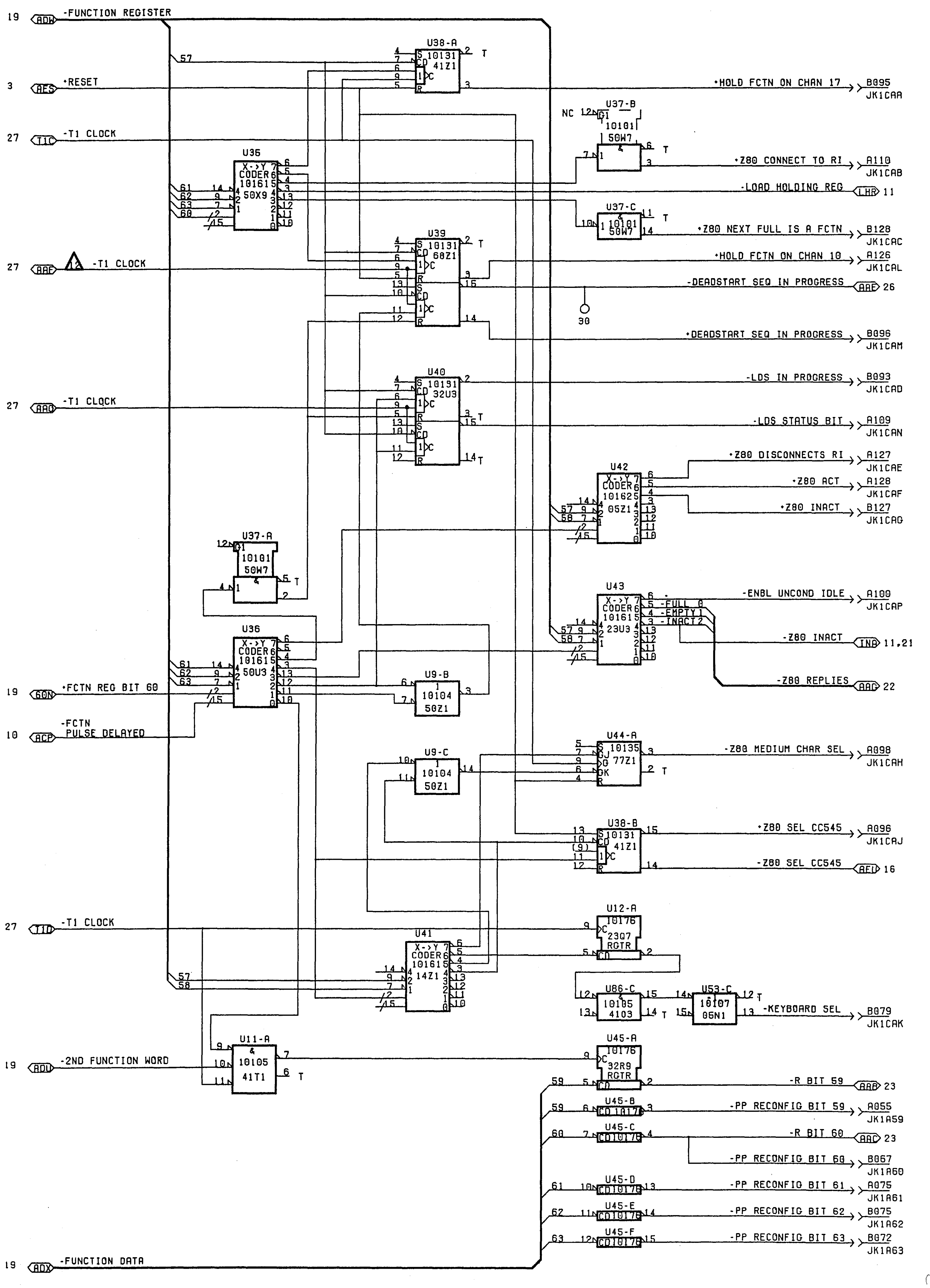
Z80 FCTN CONVERTER & TTL DCDR (3.5)



⚠ 1N001 DIODE PN 95637301

CONTROL DATA	TWO PORT MUX BOARD Z80 FUNC CONVERTER & TTL DECODER SYS POWER RELAY CONTROL TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		N	SHEET NO. 19	60462210	PAGE JK-19

Z80 FCTN DCDR (3.5)


19 ADH -FUNCTION REGISTER
3 AES +RESET
27 T1C -T1 CLOCK
27 AAE -T1 CLOCK
27 AAO -T1 CLOCK
19 60N +FCTN REG BIT 60
10 ACP -FCTN PULSE DELAYED
27 T1D -T1 CLOCK
19 ADU -2ND FUNCTION WORD
19 ADX -FUNCTION DATA
U38-A 10131 41Z1
U36 X->Y CODER 101615 50X9
U39 10131 68Z1
U40 10131 32U3
U37-A 10101 50W7
U36 X->Y CODER 101615 50U3
U9-B 10104 50Z1
U9-C 10104 50Z1
U41 X->Y CODER 101615 14Z1
U11-A 10105 41T1
U37-B 10101 50W7
U37-C 10101 50W7
U42 X->Y CODER 101625 05Z1
U43 X->Y CODER 101615 23U3
U44-A 10135 77Z1
U38-B 10131 41Z1
U12-A 10176 23Q7 RGTR
U86-C 10105 41Q3
U53-C 10107 05N1
U45-A 10176 32R9 RGTR
U45-B 10176
U45-C 10176
U45-D 10176
U45-E 10176
U45-F 10176
NC
30
+HOLD FCTN ON CHAN 17 B095 JK1CAA
+Z80 CONNECT TO RI A110 JK1CAB
-LOAD HOLDING REG LHR 11
+Z80 NEXT FULL IS A FCTN B128 JK1CAC
+HOLD FCTN ON CHAN 10 A126 JK1CAL
-DEADSTART SEQ IN PROGRESS AAE 26
+DEADSTART SEQ IN PROGRESS B096 JK1CAM
-LDS IN PROGRESS B093 JK1CAD
-LDS STATUS BIT A109 JK1CAN
+Z80 DISCONNECTS RI A127 JK1CAE
+Z80 ACT A128 JK1CAF
+Z80 INACT B127 JK1CAG
-ENBL UNCOND IDLE A100 JK1CAP
-FULL 0
-EMPTY 1
-INACT 2
-Z80 INACT INB 11,21
-Z80 REPLIES AAG 22
-Z80 MEDIUM CHAR SEL A098 JK1CAH
+Z80 SEL CC545 A096 JK1CAJ
-Z80 SEL CC545 AFD 16
-KEYBOARD SEL B079 JK1CAK
-R BIT 59 AAB 23
-PP RECONFIG BIT 59 A055 JK1A59
-R BIT 60 AAC 23
-PP RECONFIG BIT 60 B067 JK1A60
-PP RECONFIG BIT 61 A075 JK1A61
-PP RECONFIG BIT 62 B075 JK1A62
-PP RECONFIG BIT 63 B072 JK1A63

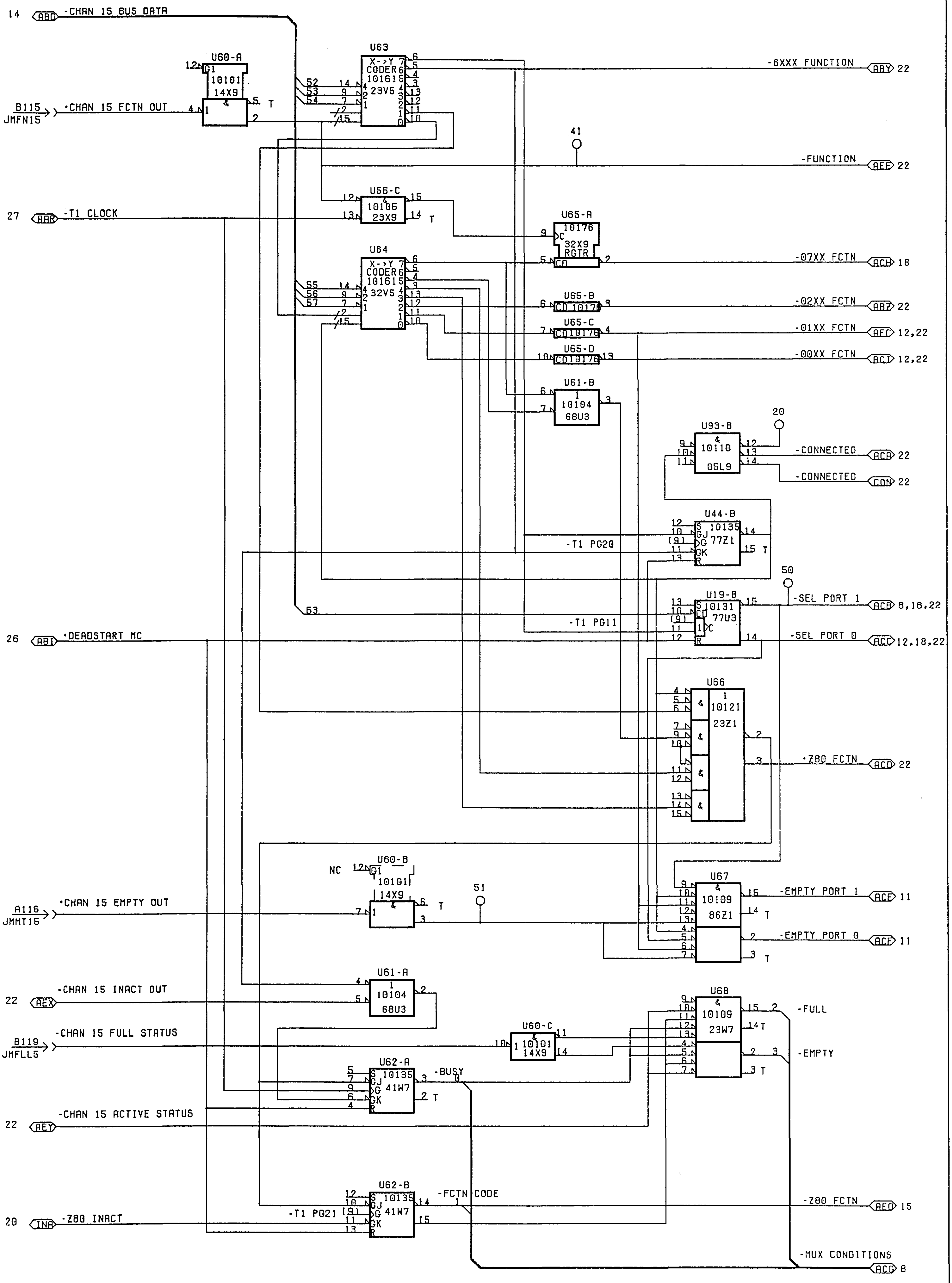
12 ROUTE CLOCK TO U83-A ON PG26 BEFORE U39

CONTROL DATA

TWO PORT MUX BOARD
Z80 FUNCTION DECODER
TYPE 1HKH/1JKH

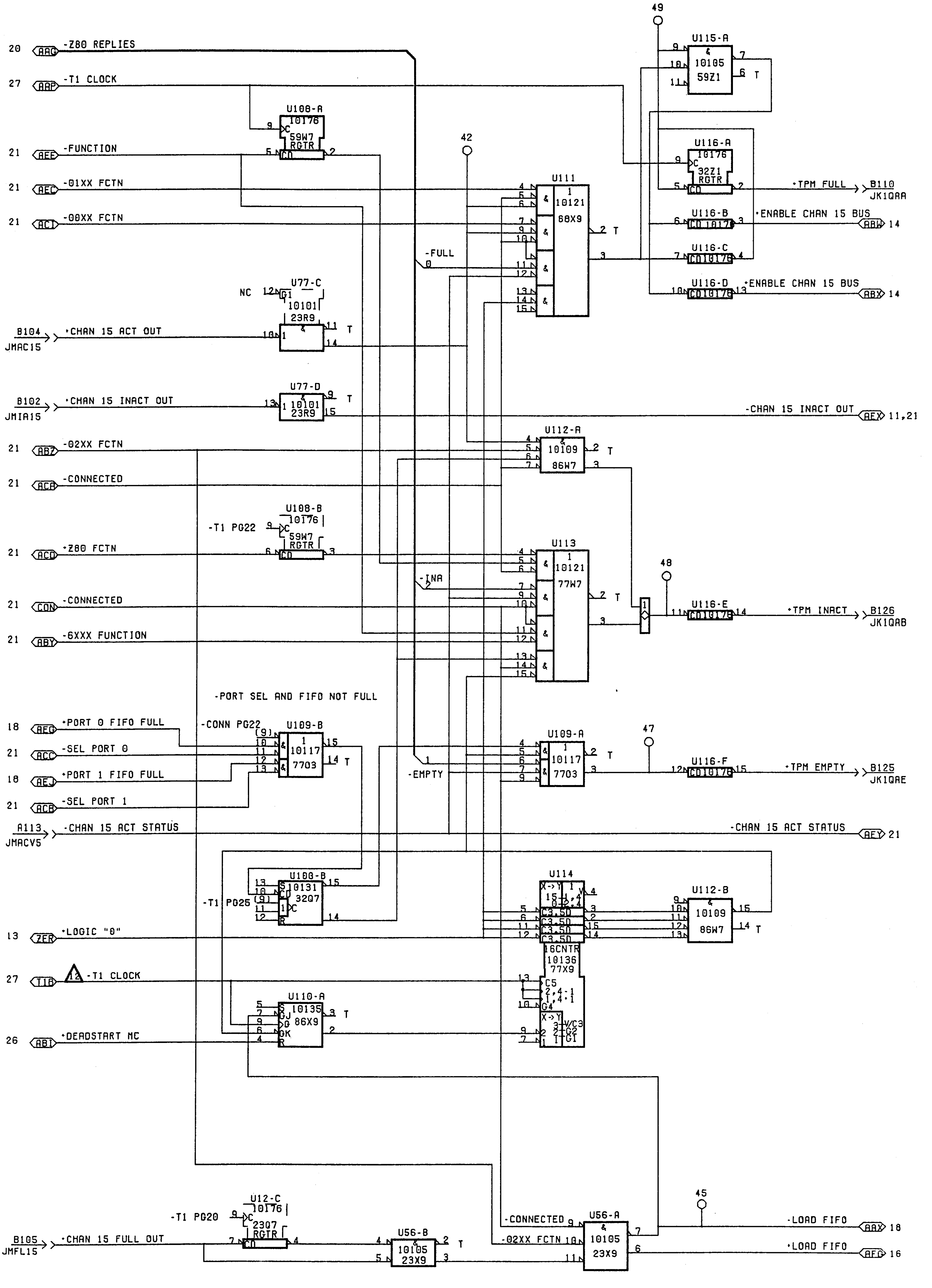
B	DWG NO. 53575509	DATE 06/07/88	REV G
SHEET NO. 20	60462210	PAGE JK-20	

TPM FCTN DCDR (3.6)



CONTROL DATA	TWO PORT MUX BOARD TWO PORT MUX FUNCTION DECODER TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		N	SHEET NO. 21	60462210	PAGE JK-21

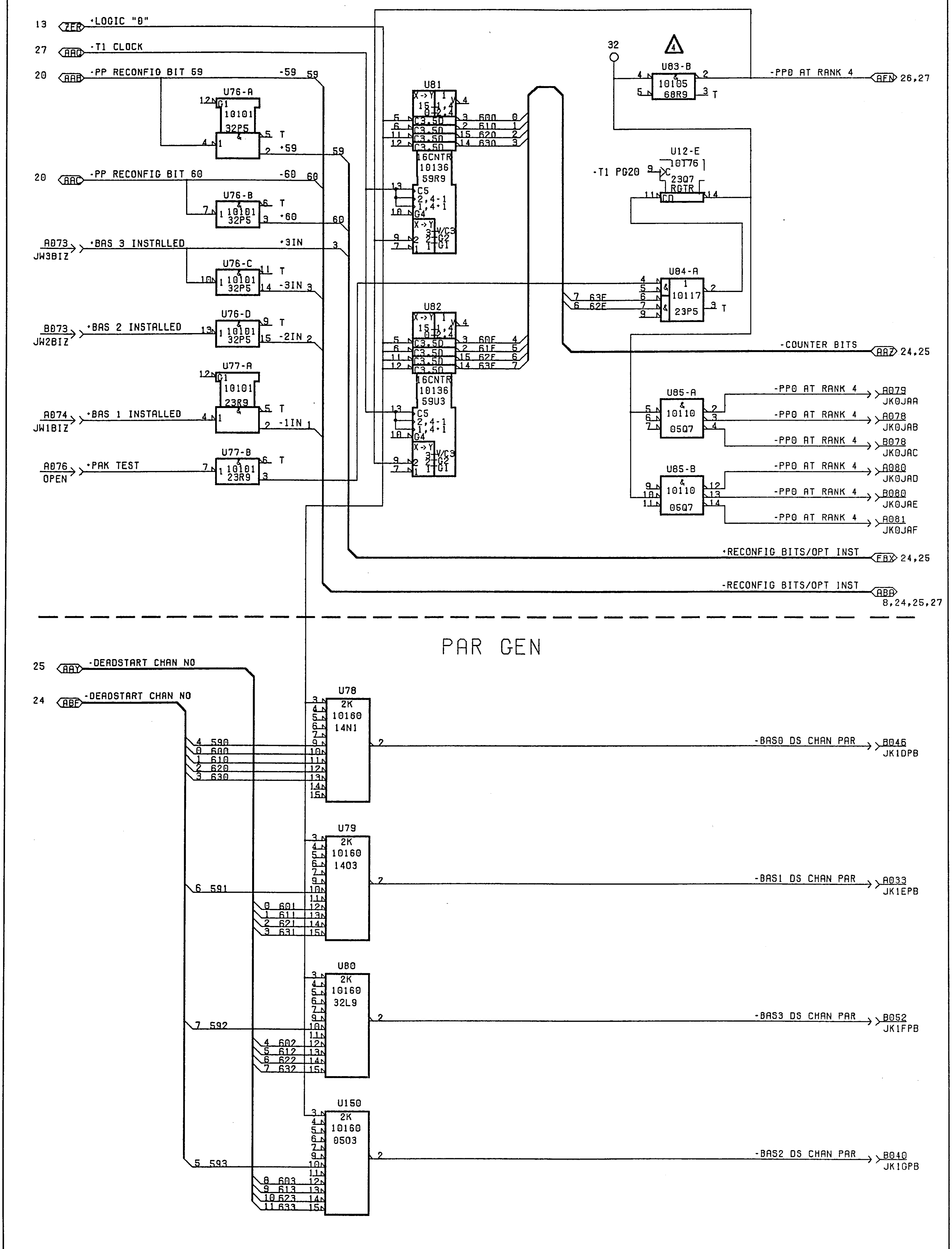
TPM-CHAN 15 INTERFACE CONTROL (3.6)



⚠ ROUTE CLOCK TO U114 BEFORE U110-A

CONTROL DATA	TWO PORT MUX BOARD TPM-CHANNEL 15 INTERFACE CONTROL TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		SHEET NO. 22	60462210	PAGE JK-22	

PP AND DS NUMBER CNTRS (3.7)

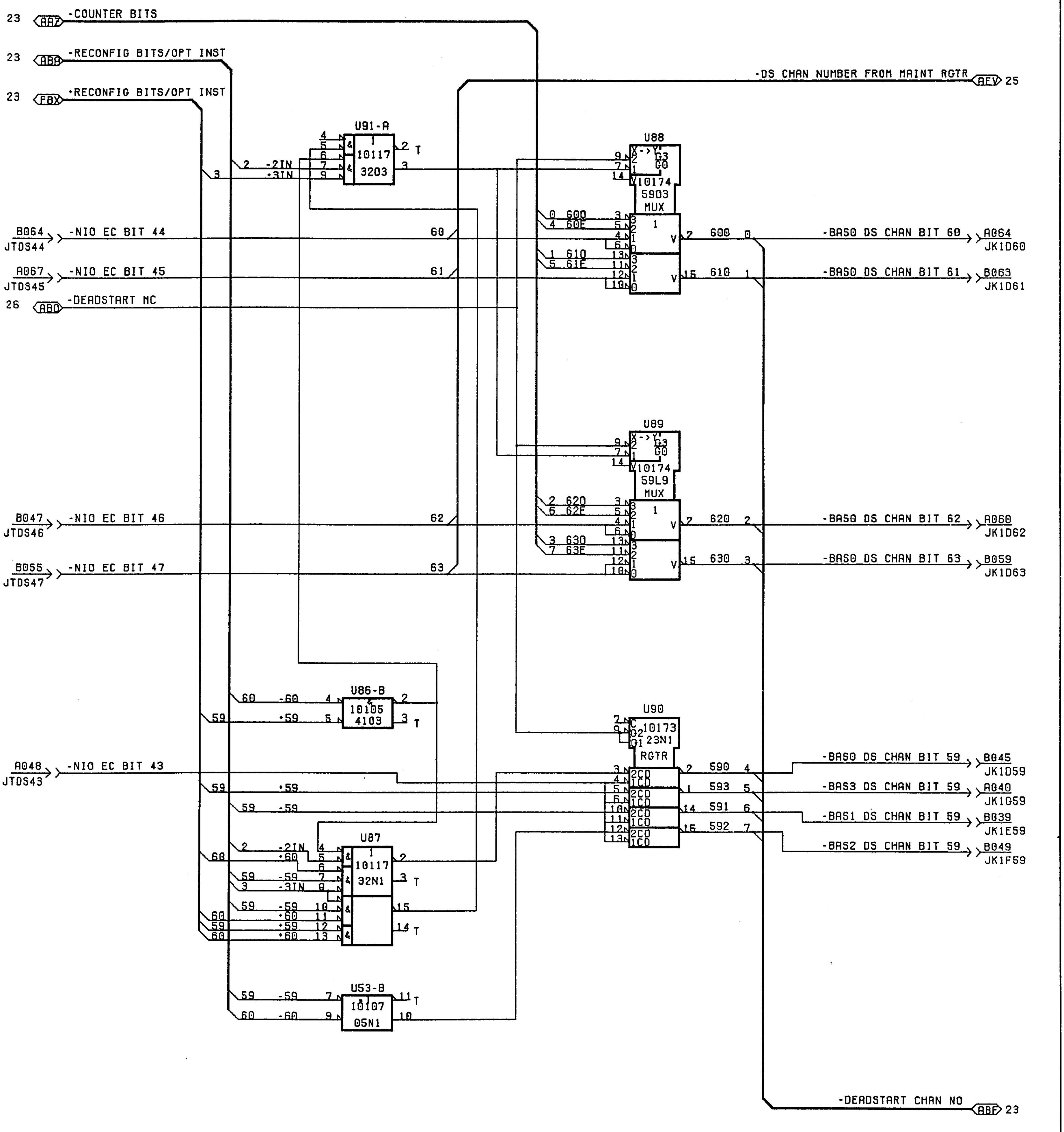


⚠4 PART NEEDED FOR REQUIRED TIMING DELAY

CONTROL DATA
TWO PORT MUX BOARD
PP & DEADSTART NUMBER COUNTERS
AND PARITY GENERATORS
TYPE 1HKH/1JKH

B	DWG NO. 53575509	DATE 06/07/88	REV G
SHEET NO. 23	60462210	PAGE JK-23	

DS CHAN NUMBER MUX (3.7)

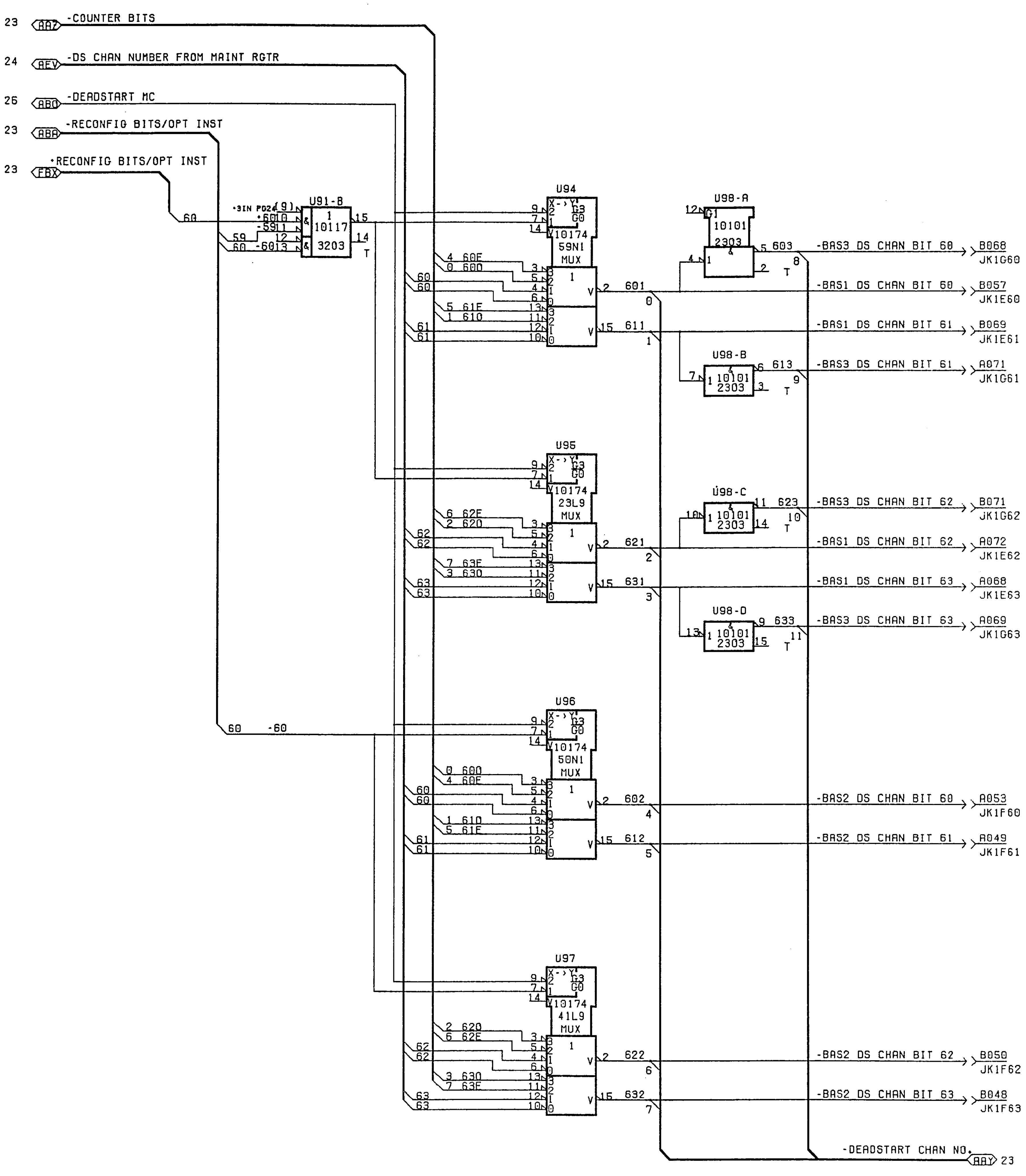


23 AA7 -COUNTER BITS
23 ABB -RECONFIG BITS/OPT INST
23 FBX +RECONFIG BITS/OPT INST
-DS CHAN NUMBER FROM MAINT RGTR AFV 25
U91-A 10117 3203
-2IN
+3IN
U88 10174 5903 MUX
X->Y G3 G0
B064 JTDS44 -NIO EC BIT 44
A067 JTDS45 -NIO EC BIT 45
26 AB0 -DEADSTART MC
0 600
4 60E
1 610
5 61E
600 0
610 1
-BAS0 DS CHAN BIT 60 A064 JK1D60
-BAS0 DS CHAN BIT 61 B063 JK1D61
U89 10174 59L9 MUX
B047 JTDS46 -NIO EC BIT 46
B055 JTDS47 -NIO EC BIT 47
2 620
6 62E
3 630
7 63E
620 2
630 3
-BAS0 DS CHAN BIT 62 A060 JK1D62
-BAS0 DS CHAN BIT 63 B059 JK1D63
U86-B 10105 4103
U90 10173 23N1 RGTR
A048 JTDS43 -NIO EC BIT 43
590 4
593 5
591 6
592 7
-BAS0 DS CHAN BIT 59 B045 JK1D59
-BAS3 DS CHAN BIT 59 A040 JK1G59
-BAS1 DS CHAN BIT 59 B039 JK1E59
-BAS2 DS CHAN BIT 59 B049 JK1F59
U87 10117 32N1
U53-B 10107 05N1
-DEADSTART CHAN NO ABF 23

MUX DECODE	
3	ODD BAS
2	EVEN BAS
1	MR DS CHAN NUMBER
0	MR DS CHAN NUMBER

CONTROL DATA	TWO PORT MUX BOARD DEADSTART CHANNEL NUMBER MUX TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
			SHEET NO. 24	60462210	PAGE JK-24

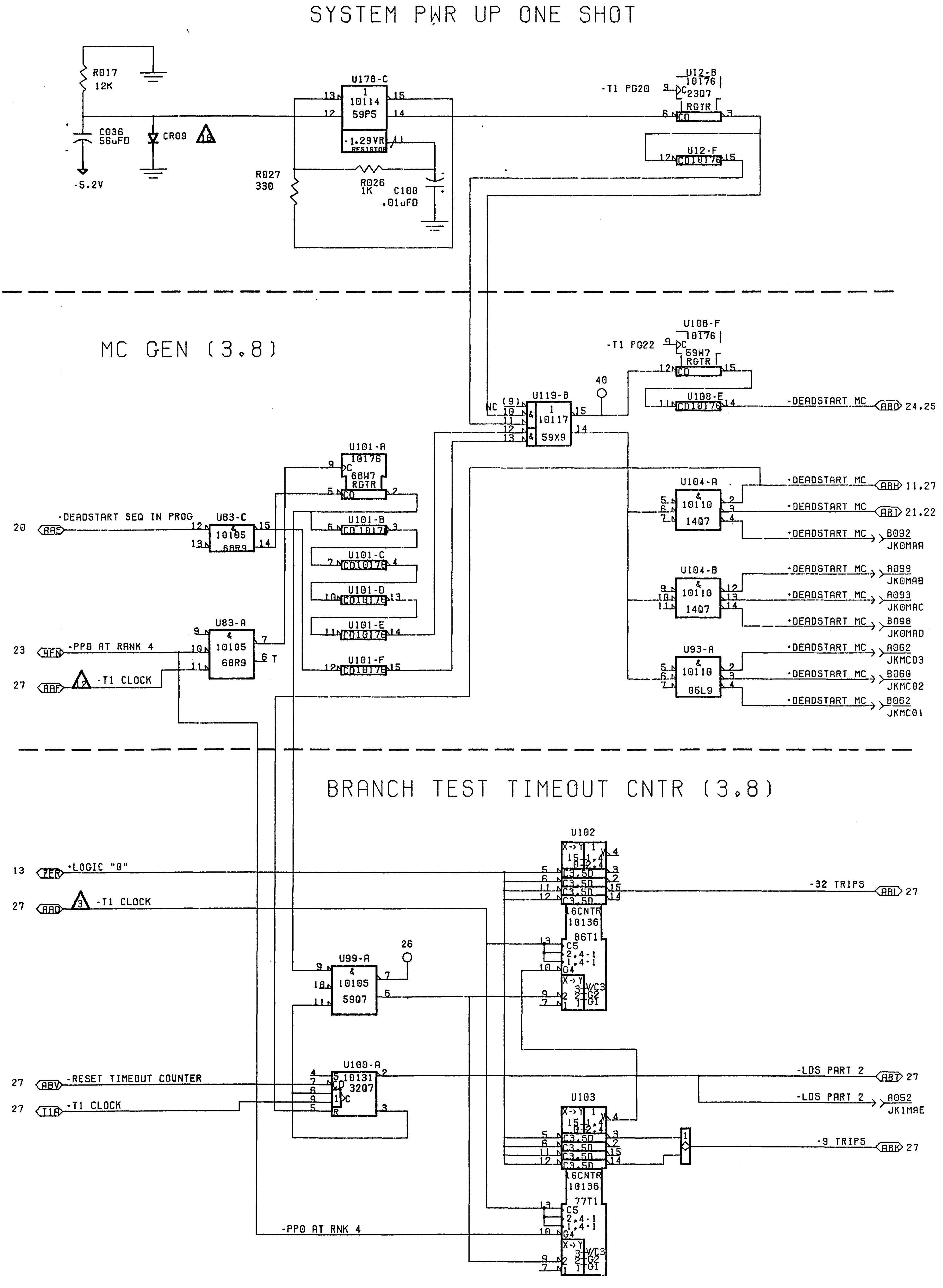
DS CHAN NUMBER MUX (3.7)


23 AAZ -COUNTER BITS
24 AEV -DS CHAN NUMBER FROM MAINT RGTR
26 ABO -DEADSTART MC
23 ABA -RECONFIG BITS/OPT INST
23 FBX •RECONFIG BITS/OPT INST
U91-B 10117 3203
U94 10174 59N1 MUX
U95 10174 23L9 MUX
U96 10174 50N1 MUX
U97 10174 41L9 MUX
U98-A 10101 2303
U98-B 10101 2303
U98-C 10101 2303
U98-D 10101 2303
-BAS3 DS CHAN BIT 60 B068 JK1G60
-BAS1 DS CHAN BIT 60 B057 JK1E60
-BAS1 DS CHAN BIT 61 B069 JK1E61
-BAS3 DS CHAN BIT 61 A071 JK1G61
-BAS3 DS CHAN BIT 62 B071 JK1G62
-BAS1 DS CHAN BIT 62 A072 JK1E62
-BAS1 DS CHAN BIT 63 A068 JK1E63
-BAS3 DS CHAN BIT 63 A069 JK1G63
-BAS2 DS CHAN BIT 60 A053 JK1F60
-BAS2 DS CHAN BIT 61 A049 JK1F61
-BAS2 DS CHAN BIT 62 B050 JK1F62
-BAS2 DS CHAN BIT 63 B048 JK1F63
-DEADSTART CHAN NO. AAY 23

MUX DECODE U94 & U95	
3	-EVEN BAS
2	-ODD BAS
1	DS CHAN NUMBER FROM MRS BITS 60-63
0	DS CHAN NUMBER FROM MRS BITS 60-63

MUX DECODE U96 & U97	
3	-ODD BAS
2	-EVEN BAS
1	DS CHAN NUMBER FROM MRS BITS 60-63
0	DS CHAN NUMBER FROM MRS BITS 60-63

CONTROL DATA
TWO PORT MUX BOARD
DEADSTART CHANNEL NUMBER MUX
TYPE 1HKH/1JKH
B
DWG NO. 53575509
DATE 06/07/88
REV G
SHEET NO. 25 60462210
PAGE JK-25



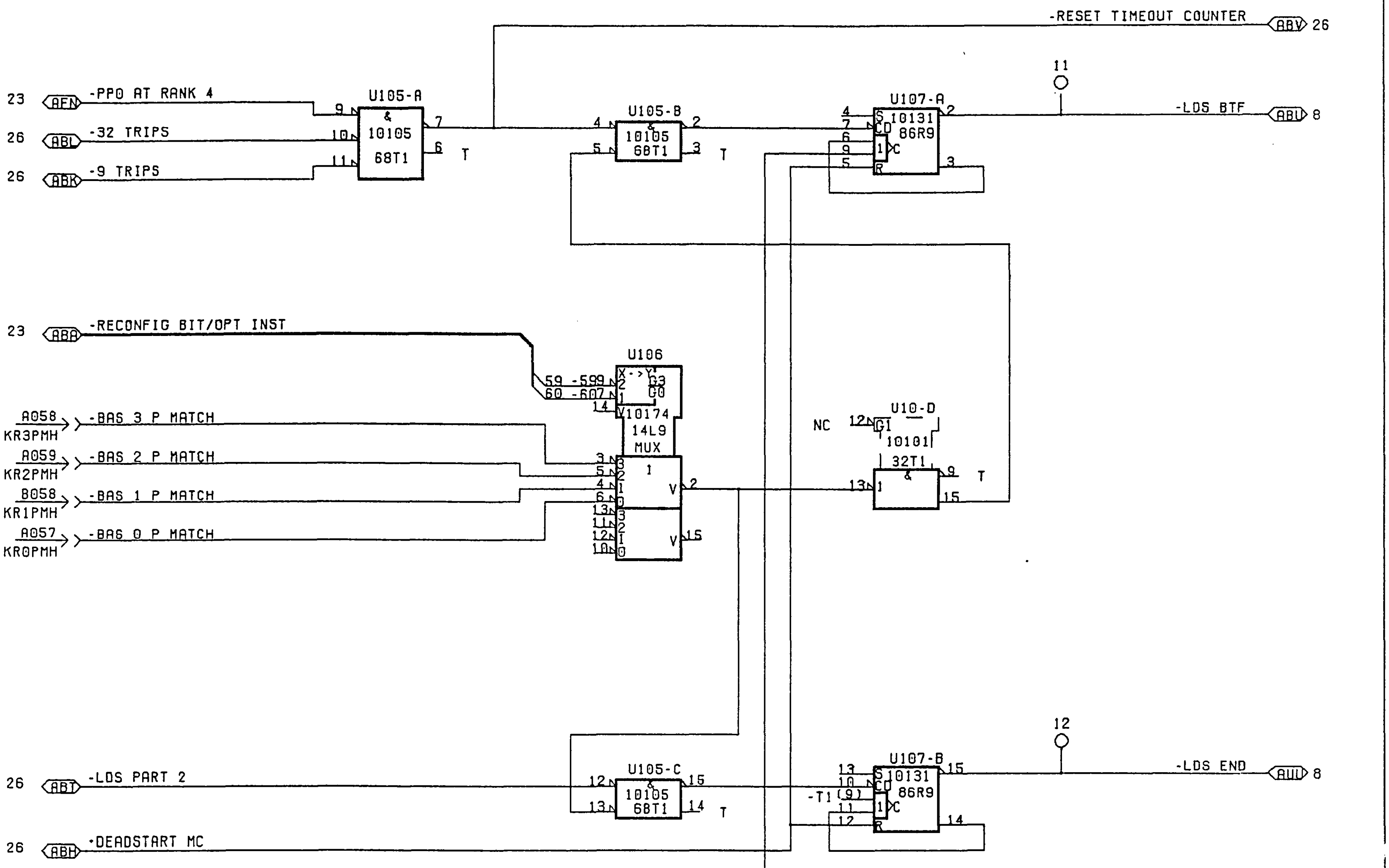
3 ROUTE CLOCK TO U102 BEFORE U103

12 ROUTE CLOCK TO U83-A BEFORE U39 ON PG20

18 SCHOTTKY DIODE PN 12081500

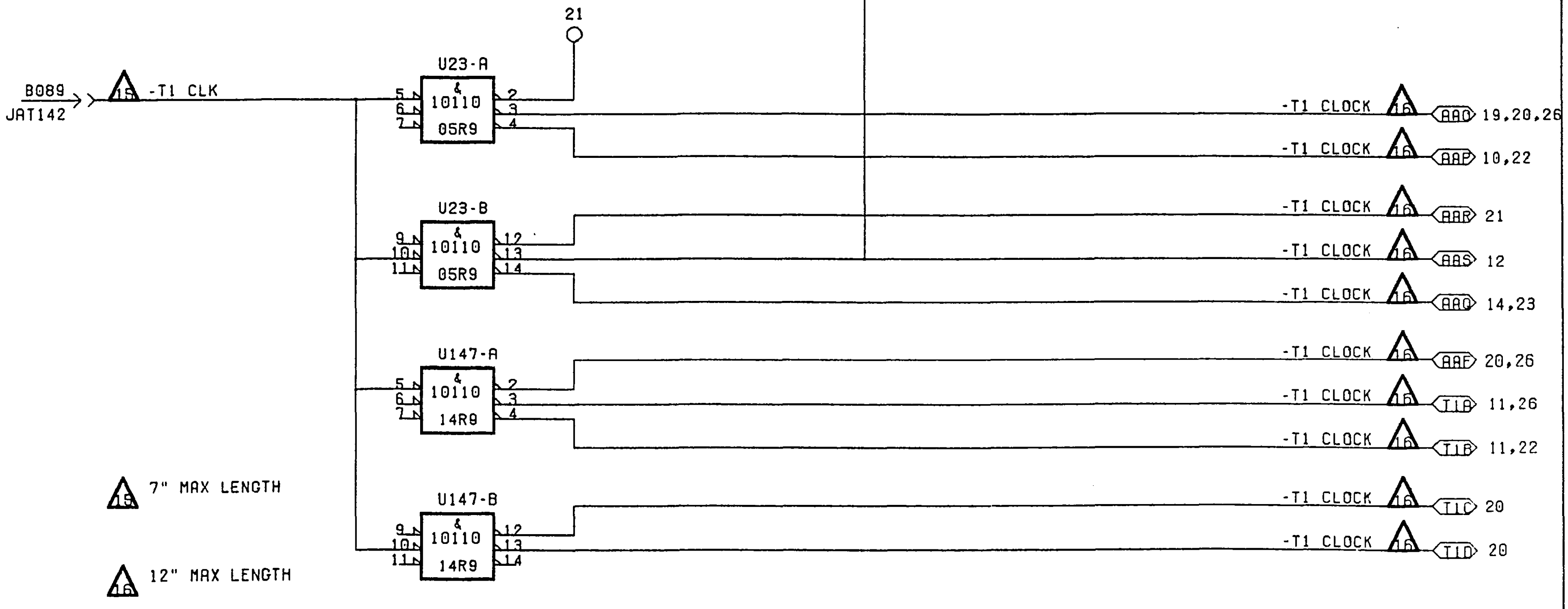
CONTROL DATA	TWO PORT MUX BOARD MASTER CLEAR GENERATOR BRANCH TEST TIMEOUT COUNTER SYSTEM POWER UP ONE SHOT 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
	N	SHEET NO. 26	60462210	PAGE JK-26	

DS BRANCH TEST (3.8)



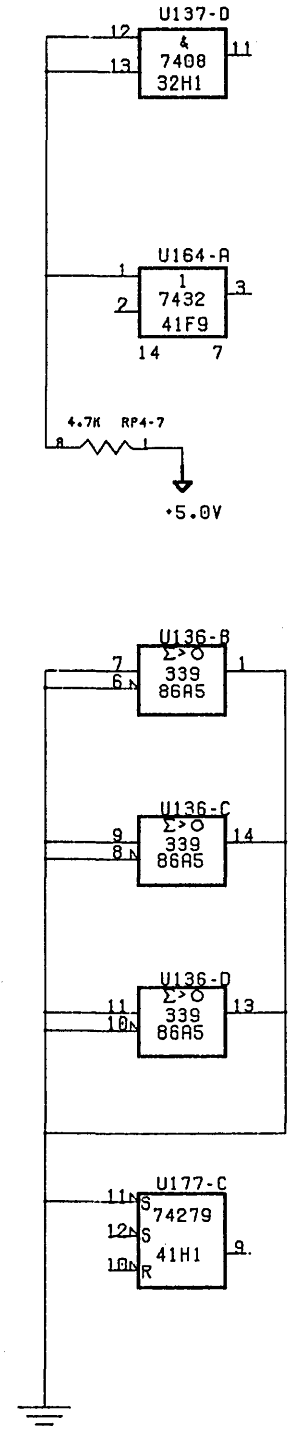
MUX DECODE	
3	P MATCH BAS 3
2	P MATCH BAS 2
1	P MATCH BAS 1
0	P MATCH BAS 0

T1 CLK F/O



CONTROL DATA	TWO PORT MUX BOARD DEADSTART BRANCH TEST T1 CLOCK FANOUT TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
		N	SHEET NO. 27	60462210	PAGE JK-27

UNUSED TTL CHIP SECTIONS



CONTROL DATA	TWO PORT MUX BOARD UNUSED TTL CHIP SECTIONS TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV C
		SHEET NO. 28	60462210	PAGE JK-28	

TESTPOINTS

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	07	-CALENDAR CLK FREQ	27	19	-FCTN BIT 63
02	03	+RAM/CAL CLK ENBL	28	19	-FCTN BIT 62
03	02	-DIAGNOSTIC INTRPT	29	19	-FCTN BIT 61
04	06	-INTRPT FROM UARTS	30	20	-DS SEQ IN PROG
05	06	-SCOPE MODE PULSE	31	19	-FCTN BIT 60
06	02	-MEM REQ	32	23	-PP0 AT RANK 4
07	02	-READ	33	19	-FCTN BIT 58
08	02	-WRITE	34	19	-FCTN BIT 57
09	02	+Z80 CLOCK	35	19	-FCTN BIT 59
10	10	+FCTN PORT RDY	36	19	-FCTN BIT 56
11	27	-LDS BTF	37	10	-FULL PULSE
12	27	-LDS END	38	22	-CHAN 15/Z80 INACT
13	10	+DATA OUT PORT RDY	39	11	-2ND PARCEL
14	11	-PRT 0 HLDG REG FULL	40	26	-DEADSTART MC
15	02	-I/O REQ	41	21	-CHAN 15 FCTN OUT
16	18	+PRT 1 FIFO DATA RDY	42	22	-CHAN 15 ACT OUT
17	18	+PRT 0 FIFO DATA RDY	43	03	+RESET
18	02	-MEM CYCLE 1	44	15	-Z80 EMPTY TO MAC
19	11	-PRT 1 HLDG REG FULL	45	22	-LOAD FIFO
20	21	-CONNECTED	46	15	-READ MOST SIG CH15
21	27	-T1 CLK	47	22	+TPM EMPTY
22	18	+PRT 0 FIFO FULL	48	22	+TPM INACT
23	10	-FCTN PULSE	49	22	+TPM FULL
24	17	+ERROR IN CH 15	50	21	-SEL PORT 1
25	18	+PRT 1 FIFO FULL	51	21	-CHAN 15 EMPTY OUT
26	26	+RESET TIMEOUT CNTR			

CONNECTOR PINS

GND	A014,B014,A024,B024,A034,B034,A054,B054,A065, B065,A066,B066,A077,B077,A097,B097,A107, B107,A117,B117
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	A006,B006,A015,B015,A022,B022
+12V	A029,B029
-12V	A032,B032
TERM	NONE
UNUSED	A003,B003,B008,A018,B018,B020,A021,B021,A023, B023,A026,A030,B030,A036,B036,A037,B037,A046, A047,A050,A051,B051,A061,B061,A063,A070,B070, B074,B076,B081,A082,B082,A083,B083,A084,B084, B086

CONTROL DATA	TWO PORT MUX BOARD TESTPOINTS & SIGNAL NAMES AND CONNECTOR PINS TYPE 1HKH/1JKH	B	DWG NO. 53575509	DATE 06/07/88	REV G
	N	SHEET NO. 29	60462210	PAGE JK-29	

1JLH 170 CHAN BOARD

REVISION HISTORY B/M 41652101			
DATE	REV	DESCRIPTION OF CHANGE	INIT
11/01/85	A	CLASS A RELEASE OF LOGIC DIAGRAMS	
		WITH ECO #46886 INSTALLED.	LHJ
04/08/86	B	ECO #47450 PAGES 11, 21, 22, & 23.	LHJ
01/12/87	C	ECO #48330 PAGE 10	
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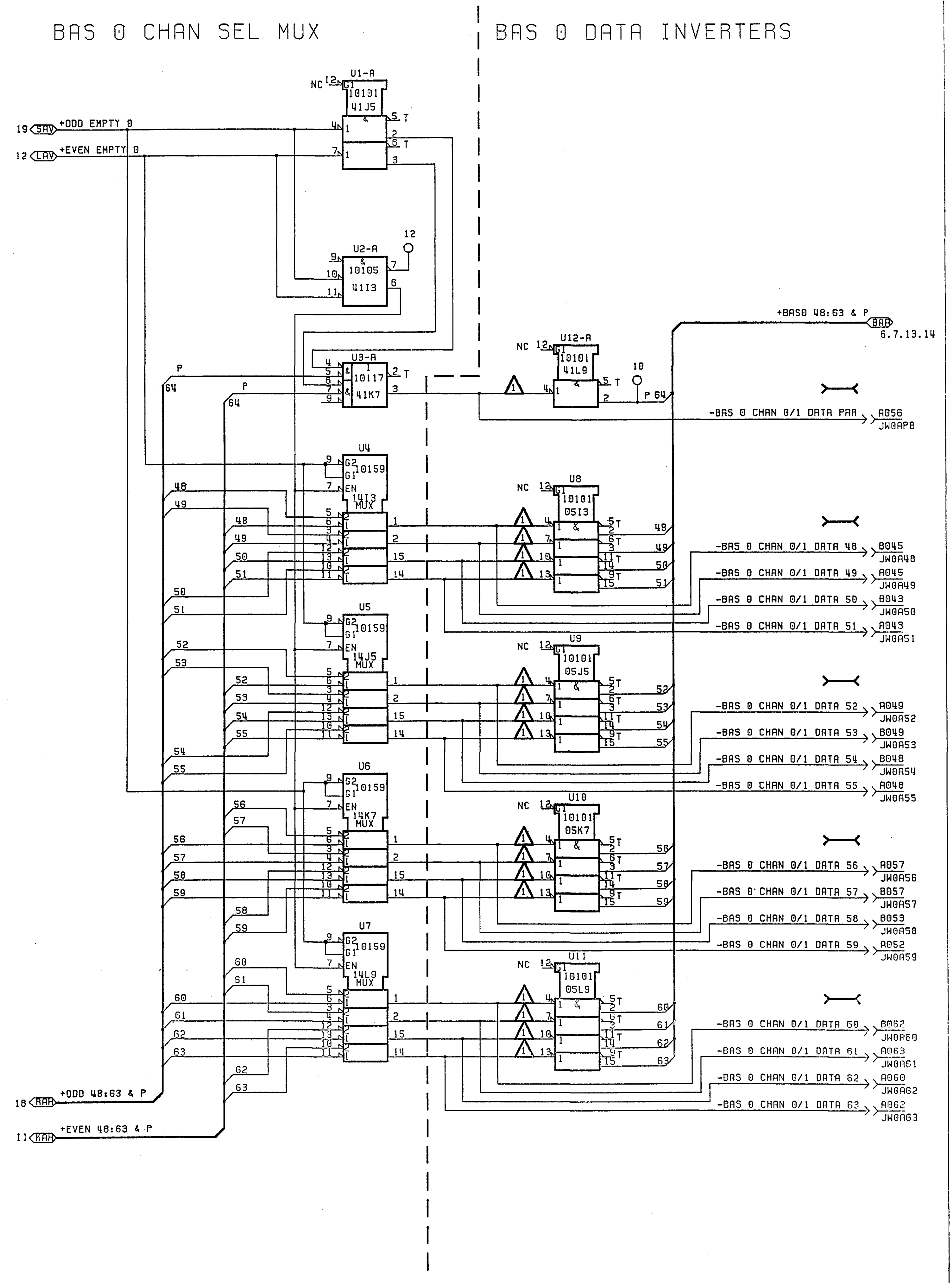
DWN	L H JOHNSON	11/01/85
CHKD	D A FORD	12/04/85
ENG	D A ZAHALAN	12/05/85
PUBS	A K BONDE	12/05/85
APP	D A ZAHALAN	12/05/85

NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

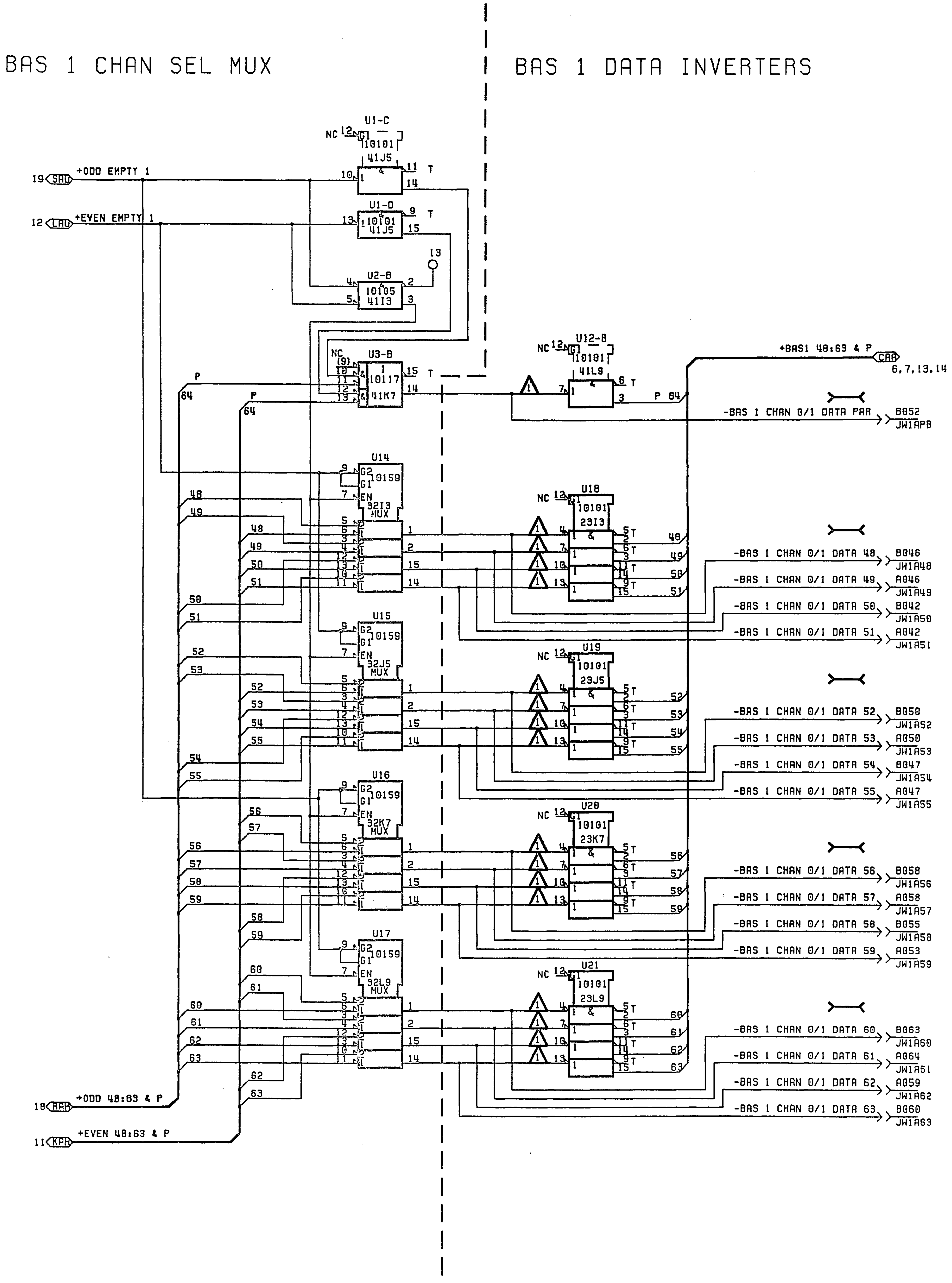
LOC: B21,B20,B19,B18,B17,B16
B07,B06,B05,B04,B03,B02

CONTROL DATA	REVISION HISTORY TYPE 1JLH	B	DWG NO. 53575510	DATE 01/12/87	REV C
		SHEET NO. 1	60462210	PAGE JL-01	


BAS 0 CHAN SEL MUX
BAS 0 DATA INVERTERS
U1-A
10101
41J5
NC
19 SAV +ODD EMPTY 0
12 LAV +EVEN EMPTY 0
U2-A
10105
41I3
12
U3-A
10117
41K7
P 64
U4
10159
14I3
MUX
U5
10159
14J5
MUX
U6
10159
14K7
MUX
U7
10159
14L9
MUX
U12-A
10101
41L9
10
P 64
+BAS0 48:63 & P
BAA
6.7.13.14
-BAS 0 CHAN 0/1 DATA PAR A056 JW0APB
U8
10101
05I3
-BAS 0 CHAN 0/1 DATA 48 B045 JW0A48
-BAS 0 CHAN 0/1 DATA 49 A045 JW0A49
-BAS 0 CHAN 0/1 DATA 50 B043 JW0A50
-BAS 0 CHAN 0/1 DATA 51 A043 JW0A51
U9
10101
05J5
-BAS 0 CHAN 0/1 DATA 52 A049 JW0A52
-BAS 0 CHAN 0/1 DATA 53 B049 JW0A53
-BAS 0 CHAN 0/1 DATA 54 B048 JW0A54
-BAS 0 CHAN 0/1 DATA 55 A048 JW0A55
U10
10101
05K7
-BAS 0 CHAN 0/1 DATA 56 A057 JW0A56
-BAS 0 CHAN 0/1 DATA 57 B057 JW0A57
-BAS 0 CHAN 0/1 DATA 58 B053 JW0A58
-BAS 0 CHAN 0/1 DATA 59 A052 JW0A59
U11
10101
05L9
-BAS 0 CHAN 0/1 DATA 60 B062 JW0A60
-BAS 0 CHAN 0/1 DATA 61 A063 JW0A61
-BAS 0 CHAN 0/1 DATA 62 A060 JW0A62
-BAS 0 CHAN 0/1 DATA 63 A062 JW0A63
18 RAA +ODD 48:63 & P
11 KAA +EVEN 48:63 & P

⚠1 NOT TERMINATED AND 6" MAXIMUM

CONTROL DATA	170 CHANNEL BOARD BAS 0 CHAN SEL MUX AND BAS 0 DATA INVERTERS TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
		N	SHEET NO. 2	60462210	PAGE JL-02

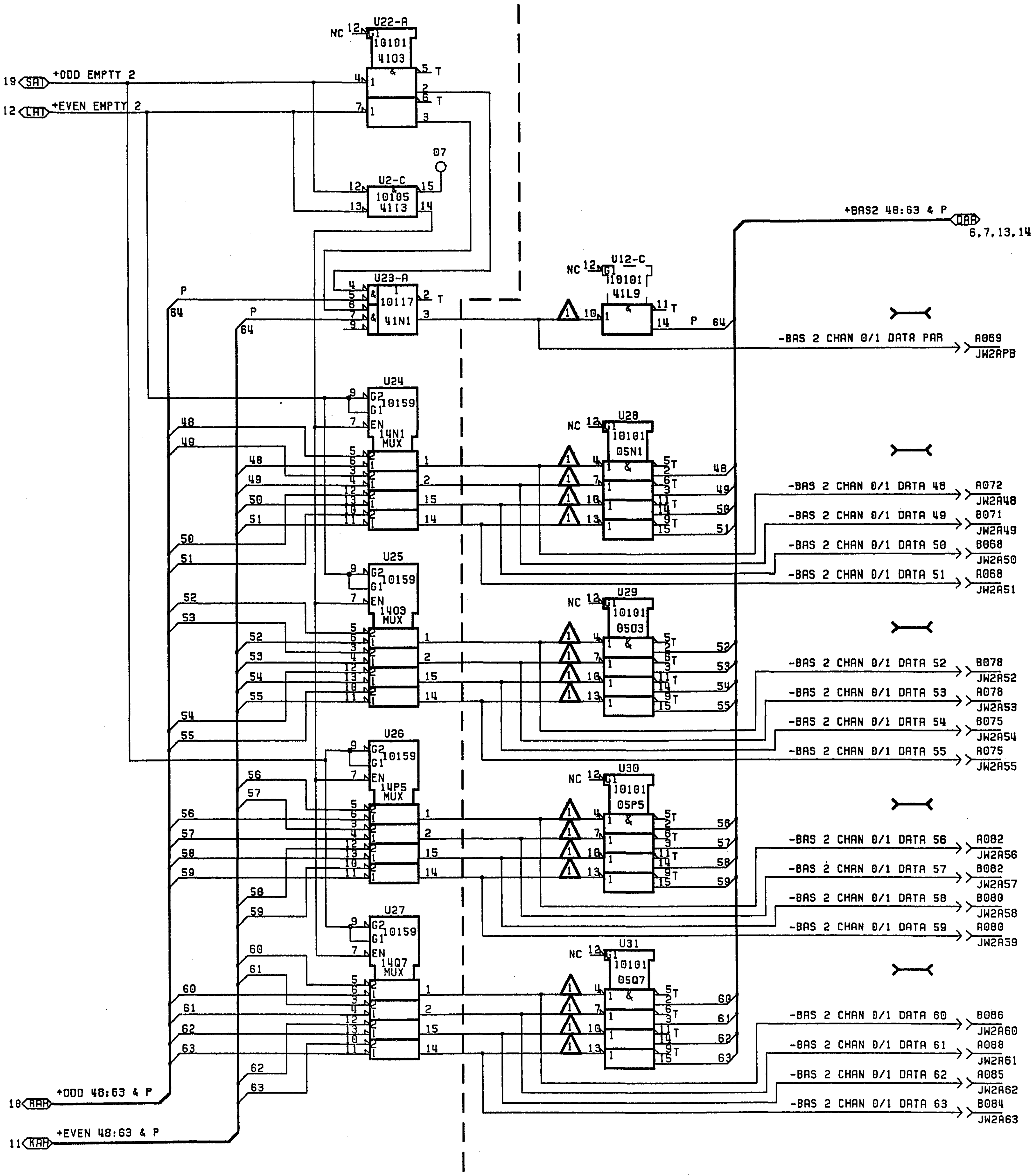

BAS 1 CHAN SEL MUX
BAS 1 DATA INVERTERS
19 SAD +ODD EMPTY 1
12 LAD +EVEN EMPTY 1
U1-C 10101 41J5
U1-D 10101 41J5
U2-B 10105 41I3
U3-B 10117 41K7
U12-B 10101 41L9
+BAS1 48:63 & P CAP 6,7,13,14
-BAS 1 CHAN 0/1 DATA PAR B052 JW1AP8
U14 10159 32I3 MUX
U15 10159 32J5 MUX
U16 10159 32K7 MUX
U17 10159 32L9 MUX
U18 10101 23I3
U19 10101 23J5
U20 10101 23K7
U21 10101 23L9
-BAS 1 CHAN 0/1 DATA 48 B046 JW1A48
-BAS 1 CHAN 0/1 DATA 49 A046 JW1A49
-BAS 1 CHAN 0/1 DATA 50 B042 JW1A50
-BAS 1 CHAN 0/1 DATA 51 A042 JW1A51
-BAS 1 CHAN 0/1 DATA 52 B050 JW1A52
-BAS 1 CHAN 0/1 DATA 53 A050 JW1A53
-BAS 1 CHAN 0/1 DATA 54 B047 JW1A54
-BAS 1 CHAN 0/1 DATA 55 A047 JW1A55
-BAS 1 CHAN 0/1 DATA 56 B058 JW1A56
-BAS 1 CHAN 0/1 DATA 57 A058 JW1A57
-BAS 1 CHAN 0/1 DATA 58 B055 JW1A58
-BAS 1 CHAN 0/1 DATA 59 A053 JW1A59
-BAS 1 CHAN 0/1 DATA 60 B063 JW1A60
-BAS 1 CHAN 0/1 DATA 61 A064 JW1A61
-BAS 1 CHAN 0/1 DATA 62 A059 JW1A62
-BAS 1 CHAN 0/1 DATA 63 B060 JW1A63
18 RAD +ODD 48:63 & P
11 KAD +EVEN 48:63 & P

△1 NOT TERMINATED AND 6" MAXIMUN

CONTROL DATA	170 CHANNEL BOARD BAS 1 CHAN SEL MUX AND BAS 1 DATA INVERTERS TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
		N	SHEET NO. 3	60462210	PAGE JL-09

BAS 2 CHAN SEL MUX

BAS 2 DATA INVERTERS

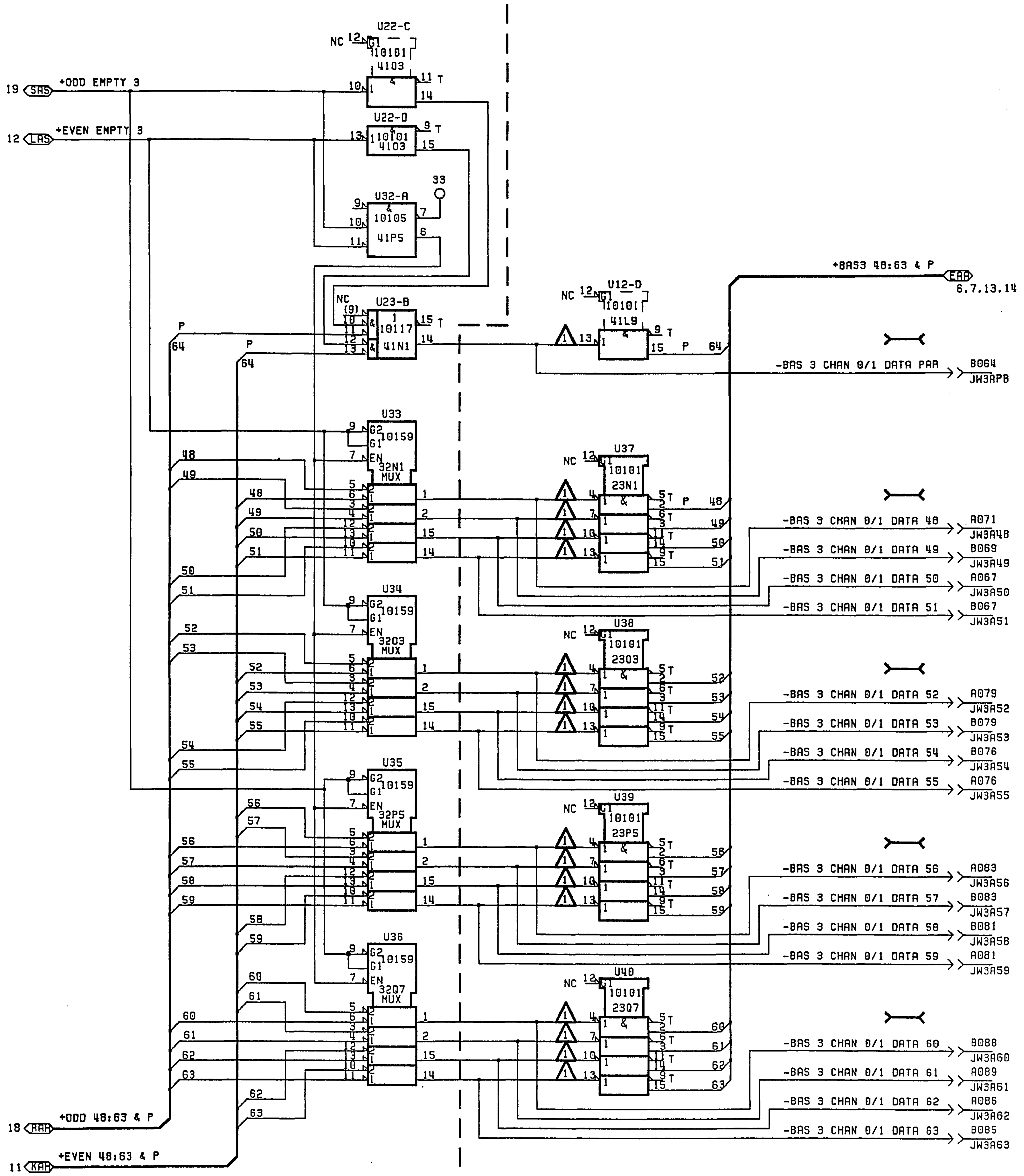


⚠ NOT TERMINATED AND 6" MAXIMUM

CONTROL DATA	170 CHANNEL BOARD BAS 2 CHAN SEL MUX AND BAS 2 DATA INVERTERS TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
		N	SHEET NO. 4	60462210	PAGE JL-04

BAS 3 CHAN SEL MUX

BAS 3 DATA INVERTERS



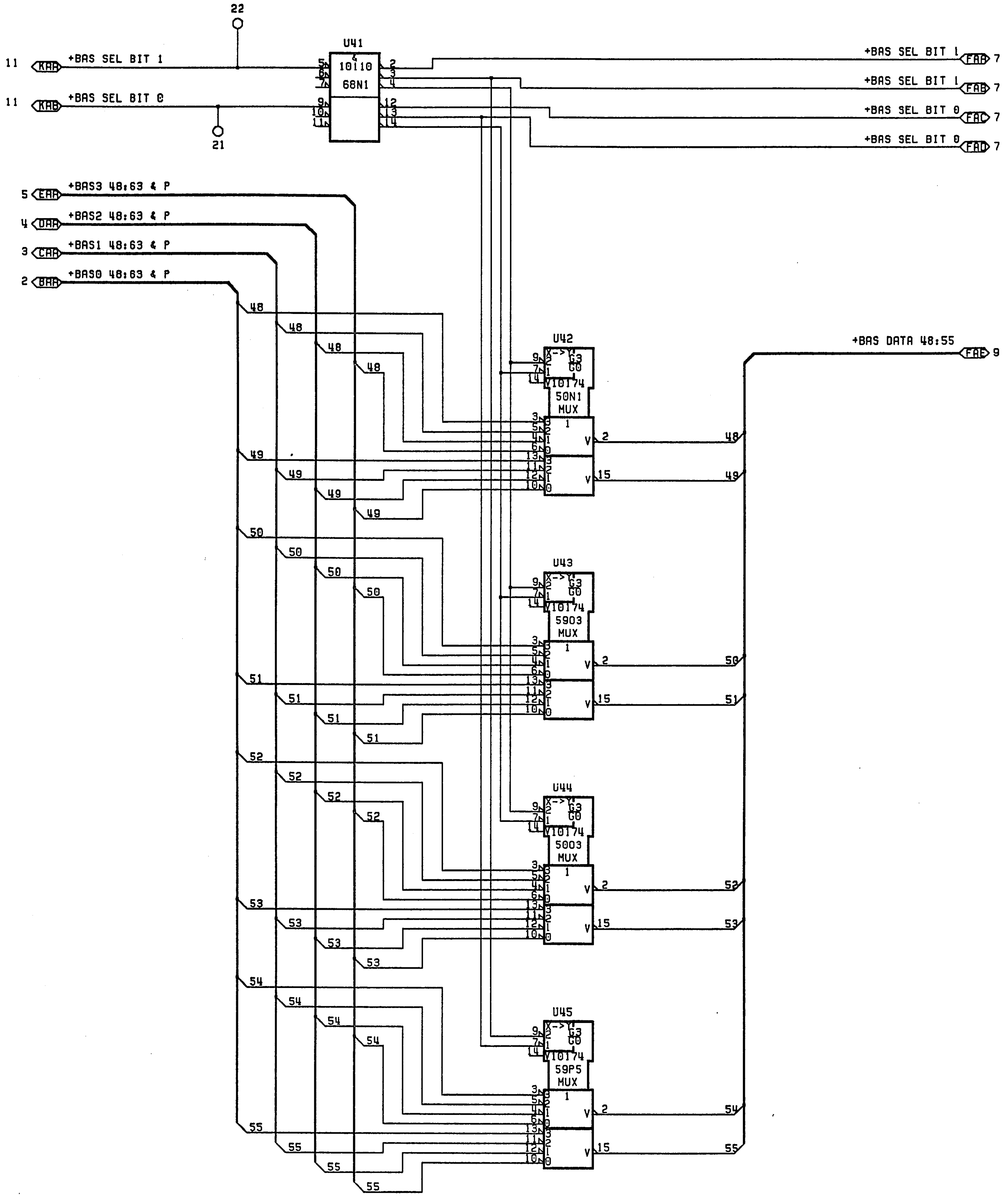
19 SAS +ODD EMPTY 3
12 LAS +EVEN EMPTY 3
U22-C 10101 4103
U22-D 10101 4103
U32-A 10105 41P5
33
U23-B 10117 41N1
NC
U12-D 10101 41L9
+BAS3 48:63 & P
EAA 6.7.13.14
-BAS 3 CHAN 0/1 DATA PAR B064 JW3APB
U33 10159 32N1 MUX
U34 10159 3203 MUX
U35 10159 32P5 MUX
U36 10159 3207 MUX
U37 10101 23N1
U38 10101 2303
U39 10101 23P5
U40 10101 2307
-BAS 3 CHAN 0/1 DATA 48 A071 JW3A48
-BAS 3 CHAN 0/1 DATA 49 B069 JW3A49
-BAS 3 CHAN 0/1 DATA 50 A067 JW3A50
-BAS 3 CHAN 0/1 DATA 51 B067 JW3A51
-BAS 3 CHAN 0/1 DATA 52 A079 JW3A52
-BAS 3 CHAN 0/1 DATA 53 B079 JW3A53
-BAS 3 CHAN 0/1 DATA 54 B076 JW3A54
-BAS 3 CHAN 0/1 DATA 55 A076 JW3A55
-BAS 3 CHAN 0/1 DATA 56 A083 JW3A56
-BAS 3 CHAN 0/1 DATA 57 B083 JW3A57
-BAS 3 CHAN 0/1 DATA 58 B081 JW3A58
-BAS 3 CHAN 0/1 DATA 59 A081 JW3A59
-BAS 3 CHAN 0/1 DATA 60 B088 JW3A60
-BAS 3 CHAN 0/1 DATA 61 A089 JW3A61
-BAS 3 CHAN 0/1 DATA 62 A086 JW3A62
-BAS 3 CHAN 0/1 DATA 63 B085 JW3A63
18 AAA +ODD 48:63 & P
11 KAA +EVEN 48:63 & P

⚠1 NOT TERMINATED AND 6" MAXIMUM

CONTROL DATA	170 CHANNEL BOARD BAS 3 CHAN SEL MUX AND BAS 3 DATA INVERTERS TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
		N	SHEET NO. 5	60462210	PAGE JL-05

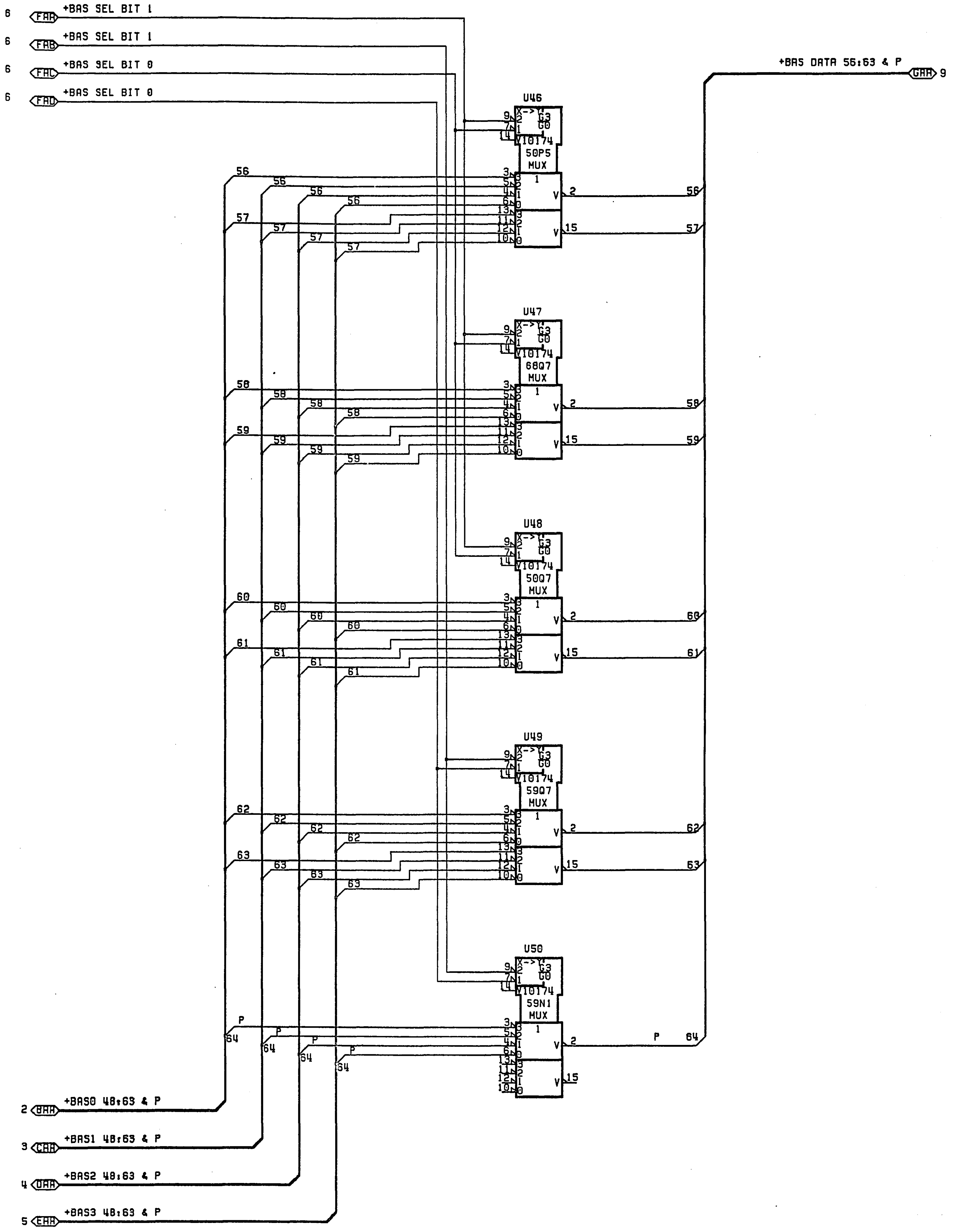
EVEN CHAN BAS DATA MUX

BITS 48-55

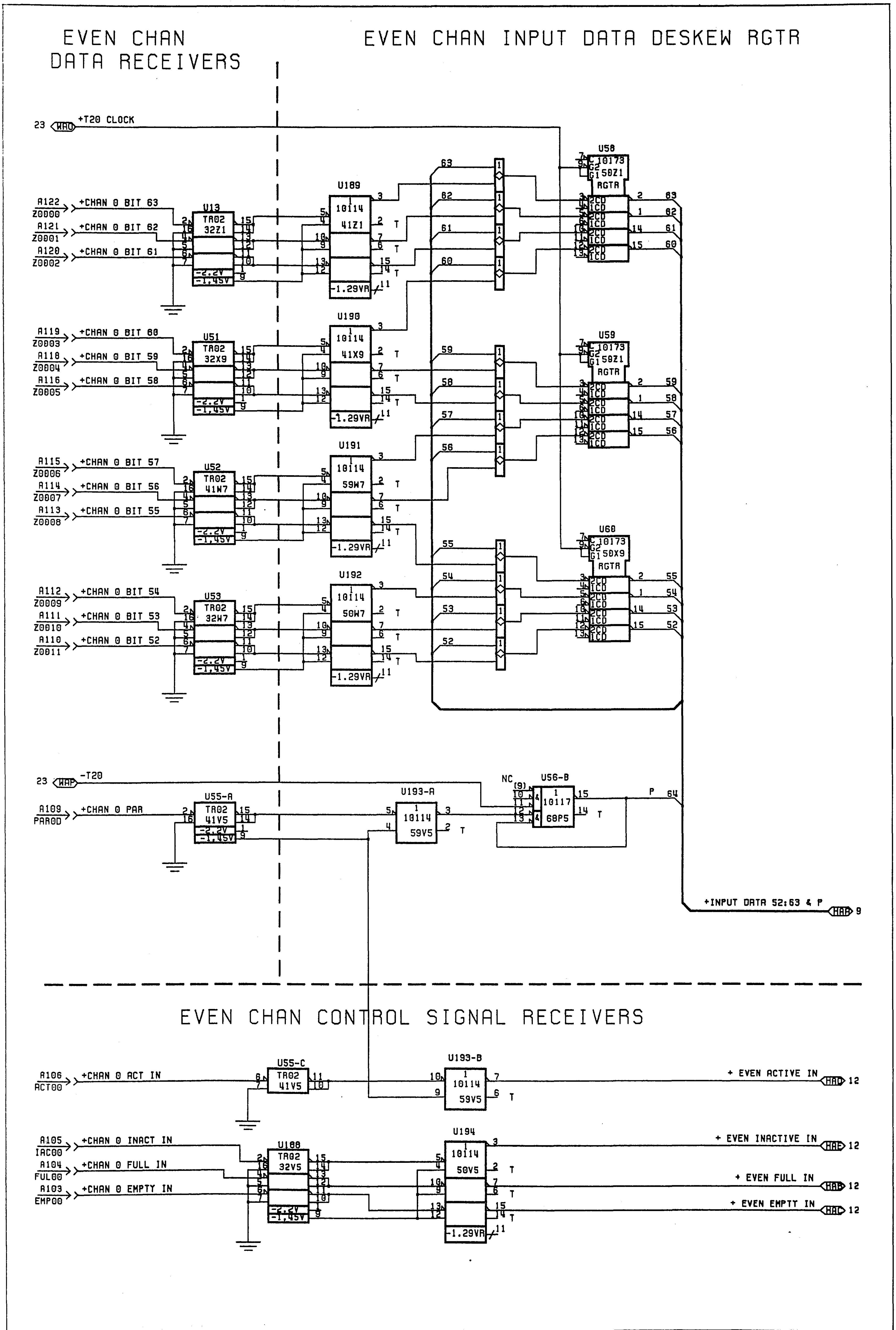


CONTROL DATA	170 CHANNEL BOARD EVEN CHANNEL BAS DATA MUX BITS 48 - 55 TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
			SHEET NO. 6	60462210	PAGE JL-08

EVEN CHAN BAS DATA MUX
BITS 56-63 & PAR



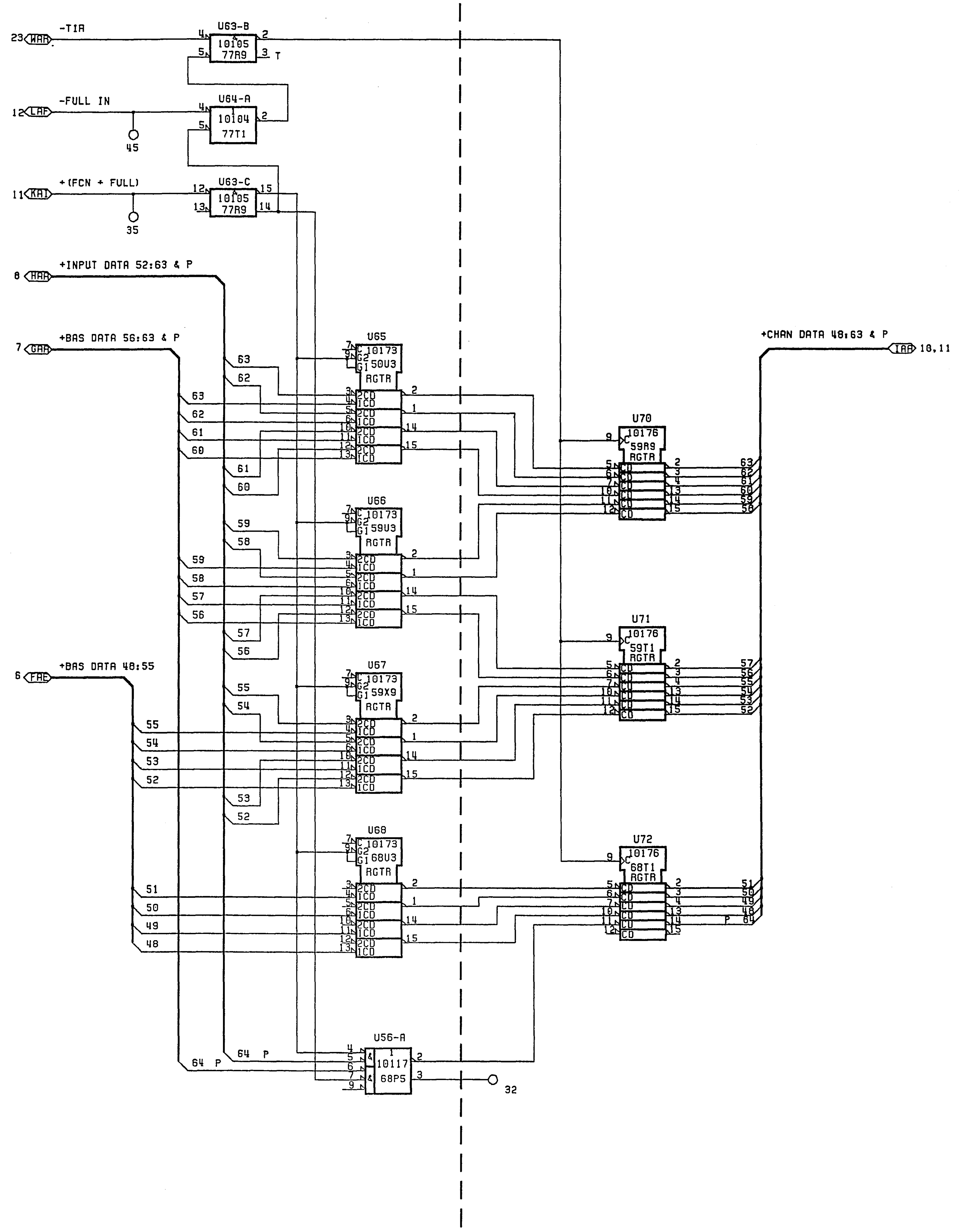
CONTROL DATA	170 CHANNEL BOARD EVEN CHAN BAS DATA MUX BITS 56 - 63 & PARITY TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
		SHEET NO. 7	60462210	PAGE JL-07	


EVEN CHAN DATA RECEIVERS
EVEN CHAN INPUT DATA DESKEW RGTR
23 WAO +T20 CLOCK
A122 Z0000 +CHAN 0 BIT 63
A121 Z0001 +CHAN 0 BIT 62
A120 Z0002 +CHAN 0 BIT 61
A119 Z0003 +CHAN 0 BIT 60
A118 Z0004 +CHAN 0 BIT 59
A116 Z0005 +CHAN 0 BIT 58
A115 Z0006 +CHAN 0 BIT 57
A114 Z0007 +CHAN 0 BIT 56
A113 Z0008 +CHAN 0 BIT 55
A112 Z0009 +CHAN 0 BIT 54
A111 Z0010 +CHAN 0 BIT 53
A110 Z0011 +CHAN 0 BIT 52
U13 TR02 32Z1
U51 TR02 32X9
U52 TR02 41W7
U53 TR02 32W7
-2.2V
-1.45V
U189 10114 41Z1
U190 10114 41X9
U191 10114 59W7
U192 10114 50W7
-1.29VR
U58 10173 50Z1 RGTR
U59 10173 50Z1 RGTR
U60 10173 50X9 RGTR
2CD
1CD
63 62 61 60 59 58 57 56 55 54 53 52
23 WAP -T20
A109 PAR0D +CHAN 0 PAR
U55-A TR02 41V5
U193-A 10114 59V5
NC (9)
U56-B 10117 68P5
P 64
+INPUT DATA 52:63 & P WAP 9
EVEN CHAN CONTROL SIGNAL RECEIVERS
A106 ACT00 +CHAN 0 ACT IN
U55-C TR02 41V5
U193-B 10114 59V5
+ EVEN ACTIVE IN WAD 12
A105 IAC00 +CHAN 0 INACT IN
A104 FUL00 +CHAN 0 FULL IN
A103 EMP00 +CHAN 0 EMPTY IN
U188 TR02 32V5
U194 10114 50V5
+ EVEN INACTIVE IN WAE 12
+ EVEN FULL IN WAB 12
+ EVEN EMPTY IN WAC 12
T

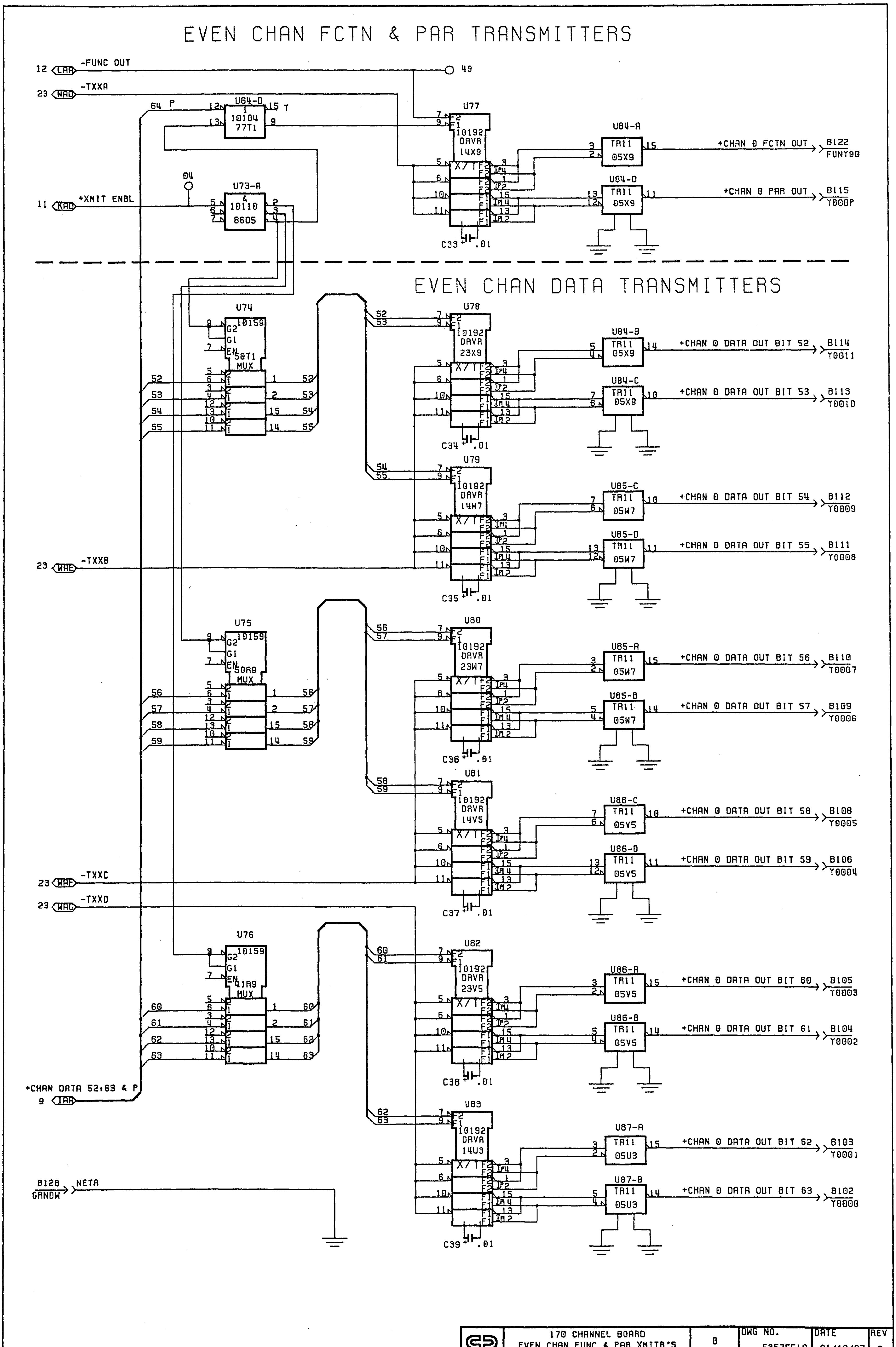
CONTROL DATA	170 CHANNEL BOARD EVEN CH DATA RCVR'S, DESKEW RGTR, INPUT PAR REGEN AND CTRL RCVR'S TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
	N		SHEET NO. 8	60462210	PAGE JL-08

EVEN CHAN INT/EXT SEL MUX

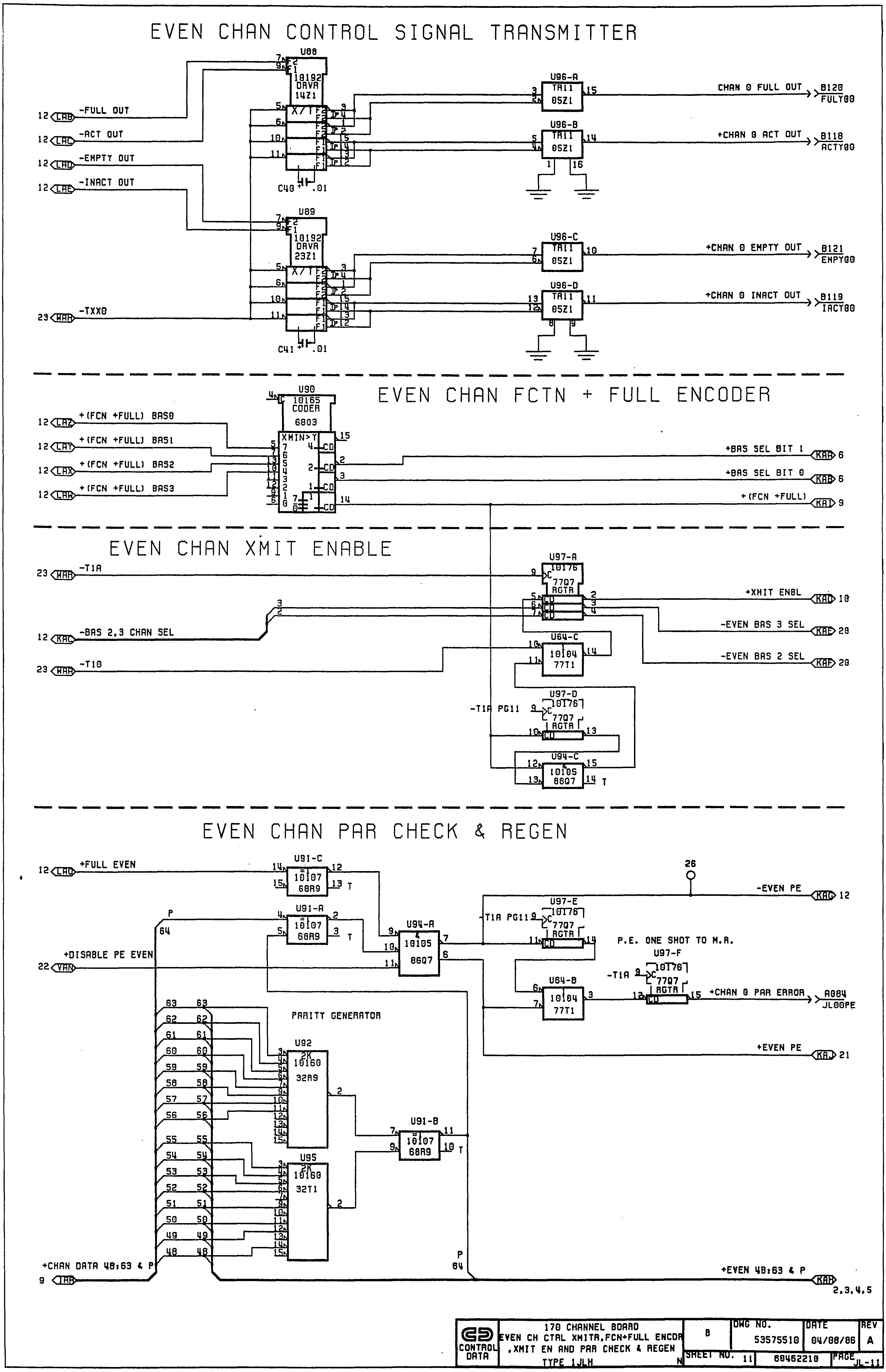
EVEN CHAN DATA HLDG RGTR



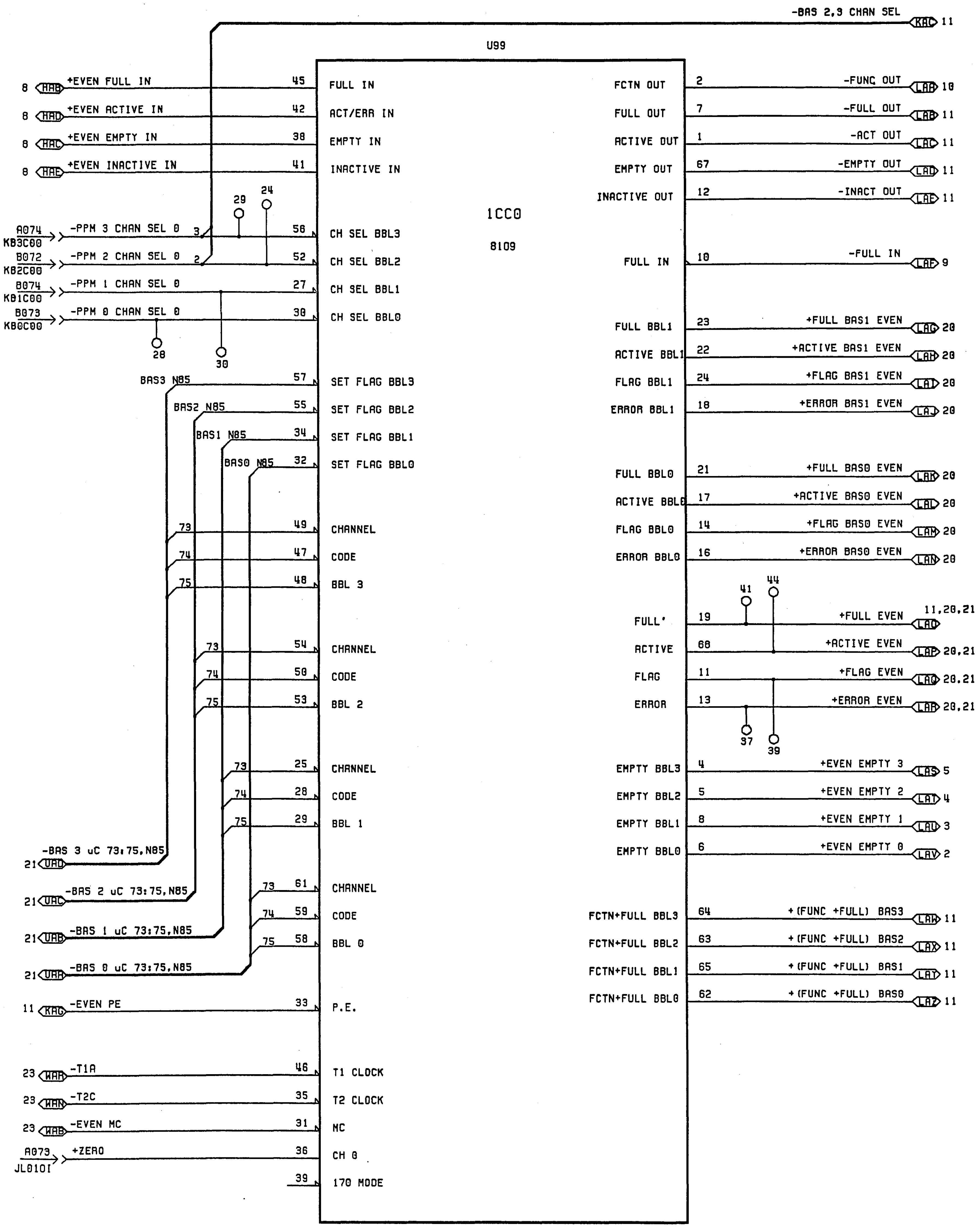
CONTROL DATA	170 CHANNEL BOARD EVEN CHAN INT/EXT SELECT MUX AND DATA HOLDING REGISTER TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
		SHEET NO. 9	60462210	PAGE JL-09	



CONTROL DATA	170 CHANNEL BOARD EVEN CHAN FUNC & PAR XMITR'S AND DATA TRANSMITTERS TYPE 1JLH	B	DWG NO. 53575510	DATE 01/12/87	REV C
			SHEET NO. 10	60462210	PAGE JL-10

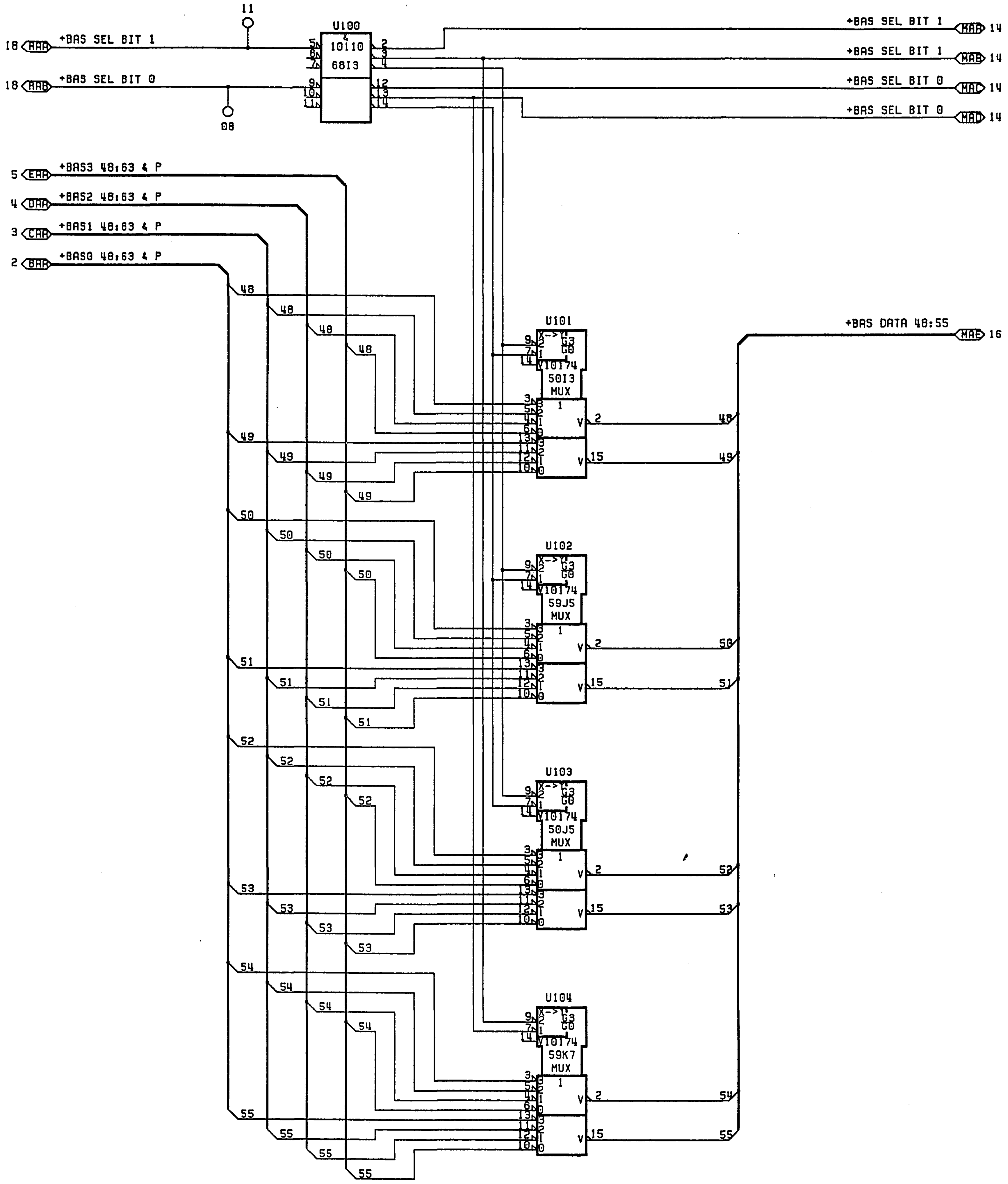

EVEN CHAN CONTROL SIGNAL TRANSMITTER
U88
10192
DRVR
14Z1
X/T
C40 .01
U89
10192
DRVR
23Z1
C41 .01
12 LAB -FULL OUT
12 LAC -ACT OUT
12 LAD -EMPTY OUT
12 LAE -INACT OUT
23 WAR -TXX0
U96-A TR11 05Z1
U96-B TR11 05Z1
U96-C TR11 05Z1
U96-D TR11 05Z1
CHAN 0 FULL OUT B120 FULY00
+CHAN 0 ACT OUT B118 ACTY00
+CHAN 0 EMPTY OUT B121 EMPY00
+CHAN 0 INACT OUT B119 IACY00
EVEN CHAN FCTN + FULL ENCODER
U90
10165
CODER
6803
XMIN>Y
12 LAZ +(FCN +FULL) BAS0
12 LAY +(FCN +FULL) BAS1
12 LAX +(FCN +FULL) BAS2
12 LAW +(FCN +FULL) BAS3
+BAS SEL BIT 1 KAH 6
+BAS SEL BIT 0 KAB 6
+(FCN +FULL) KAI 9
EVEN CHAN XMIT ENABLE
23 WAR -T1A
12 KAC -BAS 2,3 CHAN SEL
23 WAR -T10
U97-A 10176 7707 RGTR
U64-C 10104 77T1
U97-D 10176 7707 RGTR
-T1A PG11
U94-C 10105 86Q7
+XMIT ENBL KAD 10
-EVEN BAS 3 SEL KAE 20
-EVEN BAS 2 SEL KAF 20
EVEN CHAN PAR CHECK & REGEN
12 LAO +FULL EVEN
U91-C 10107 68A9
U91-A 10107 68A9
P 64
22 VAN +DISABLE PE EVEN
U94-A 10105 86Q7
26
-EVEN PE KAG 12
U97-E 10176 7707 RGTR
-T1A PG11
P.E. ONE SHOT TO M.R.
U97-F 10176 7707 RGTR
-T1A
U64-B 10104 77T1
+CHAN 0 PAR ERROR A084 JL00PE
+EVEN PE KAJ 21
PARITY GENERATOR
U92 2K 10160 32A9
U95 2K 10160 32T1
U91-B 10107 68A9
63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48
9 IAB +CHAN DATA 48:63 & P
+EVEN 48:63 & P KAB 2,3,4,5
P 64
CONTROL DATA
170 CHANNEL BOARD
EVEN CH CTRL XMITR,FCN+FULL ENCDR
,XMIT EN AND PAR CHECK & REGEN
TYPE 1JLH
B
DWG NO. 53575510
DATE 04/08/86
REV A
SHEET NO. 11
60462210
PAGE JL-11

EVEN CHAN CONTROL


-BAS 2,3 CHAN SEL
KAC 11
U99
1CC0
8109
8 HAB +EVEN FULL IN 45 FULL IN
8 HAD +EVEN ACTIVE IN 42 ACT/ERR IN
8 HAC +EVEN EMPTY IN 38 EMPTY IN
8 HAE +EVEN INACTIVE IN 41 INACTIVE IN
29
24
A074 KB3C00 -PPM 3 CHAN SEL 0 3 56 CH SEL BBL3
B072 KB2C00 -PPM 2 CHAN SEL 0 2 52 CH SEL BBL2
B074 KB1C00 -PPM 1 CHAN SEL 0 27 CH SEL BBL1
B073 KB0C00 -PPM 0 CHAN SEL 0 30 CH SEL BBL0
28
30
BAS3 N85 57 SET FLAG BBL3
BAS2 N85 55 SET FLAG BBL2
BAS1 N85 34 SET FLAG BBL1
BAS0 N85 32 SET FLAG BBL0
73 49 CHANNEL
74 47 CODE
75 48 BBL 3
73 54 CHANNEL
74 50 CODE
75 53 BBL 2
73 25 CHANNEL
74 28 CODE
75 29 BBL 1
73 61 CHANNEL
74 59 CODE
75 58 BBL 0
-BAS 3 uC 73:75,N85 21 UAD
-BAS 2 uC 73:75,N85 21 UAC
-BAS 1 uC 73:75,N85 21 UAB
-BAS 0 uC 73:75,N85 21 UAA
11 KAG -EVEN PE 33 P.E.
23 WAB -T1A 46 T1 CLOCK
23 WAA -T2C 35 T2 CLOCK
23 WAB -EVEN MC 31 MC
A073 JL0101 +ZERO 36 CH 0
39 170 MODE
FCTN OUT 2 -FUNC OUT LAB 10
FULL OUT 7 -FULL OUT LAB 11
ACTIVE OUT 1 -ACT OUT LAC 11
EMPTY OUT 67 -EMPTY OUT LAD 11
INACTIVE OUT 12 -INACT OUT LAE 11
FULL IN 10 -FULL IN LAF 9
FULL BBL1 23 +FULL BAS1 EVEN LAG 20
ACTIVE BBL1 22 +ACTIVE BAS1 EVEN LAH 20
FLAG BBL1 24 +FLAG BAS1 EVEN LAI 20
ERROR BBL1 18 +ERROR BAS1 EVEN LAJ 20
FULL BBL0 21 +FULL BAS0 EVEN LAK 20
ACTIVE BBL0 17 +ACTIVE BAS0 EVEN LAL 20
FLAG BBL0 14 +FLAG BAS0 EVEN LAM 20
ERROR BBL0 16 +ERROR BAS0 EVEN LAN 20
41
44
FULL' 19 +FULL EVEN LAO 11,20,21
ACTIVE 60 +ACTIVE EVEN LAP 20,21
FLAG 11 +FLAG EVEN LAQ 20,21
ERROR 13 +ERROR EVEN LAR 20,21
37
39
EMPTY BBL3 4 +EVEN EMPTY 3 LAS 5
EMPTY BBL2 5 +EVEN EMPTY 2 LAT 4
EMPTY BBL1 8 +EVEN EMPTY 1 LAU 3
EMPTY BBL0 6 +EVEN EMPTY 0 LAV 2
FCTN+FULL BBL3 64 +(FUNC +FULL) BAS3 LAW 11
FCTN+FULL BBL2 63 +(FUNC +FULL) BAS2 LAX 11
FCTN+FULL BBL1 65 +(FUNC +FULL) BAS1 LAY 11
FCTN+FULL BBL0 62 +(FUNC +FULL) BAS0 LAZ 11

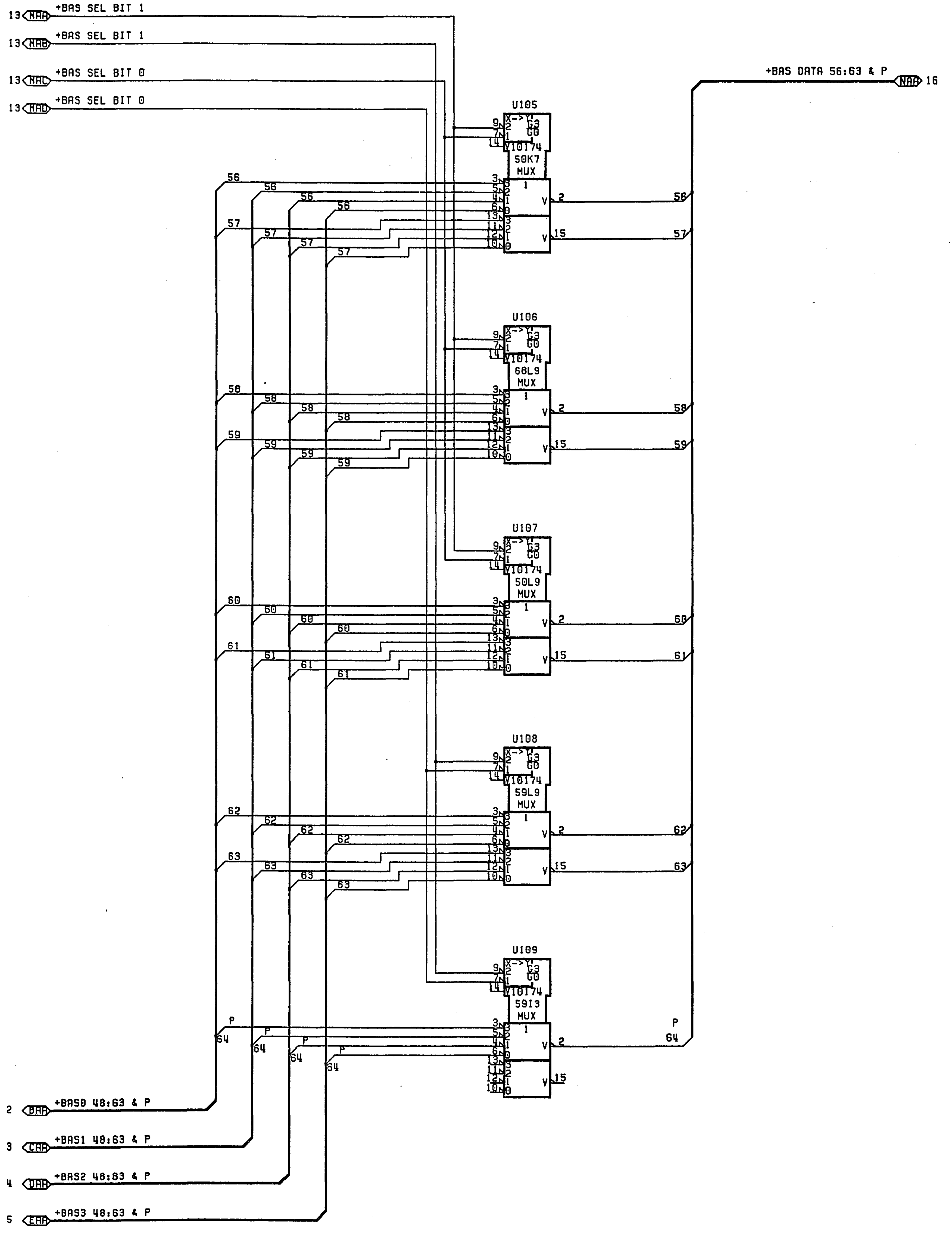
CONTROL DATA
170 CHANNEL BOARD
EVEN CHANNEL CONTROL LOGIC
TYPE 1JLH
B
DWG NO. 53575510
DATE 11/01/85
REV A
SHEET NO. 12
60462210
PAGE JL-12

ODD CHAN BAS DATA MUX

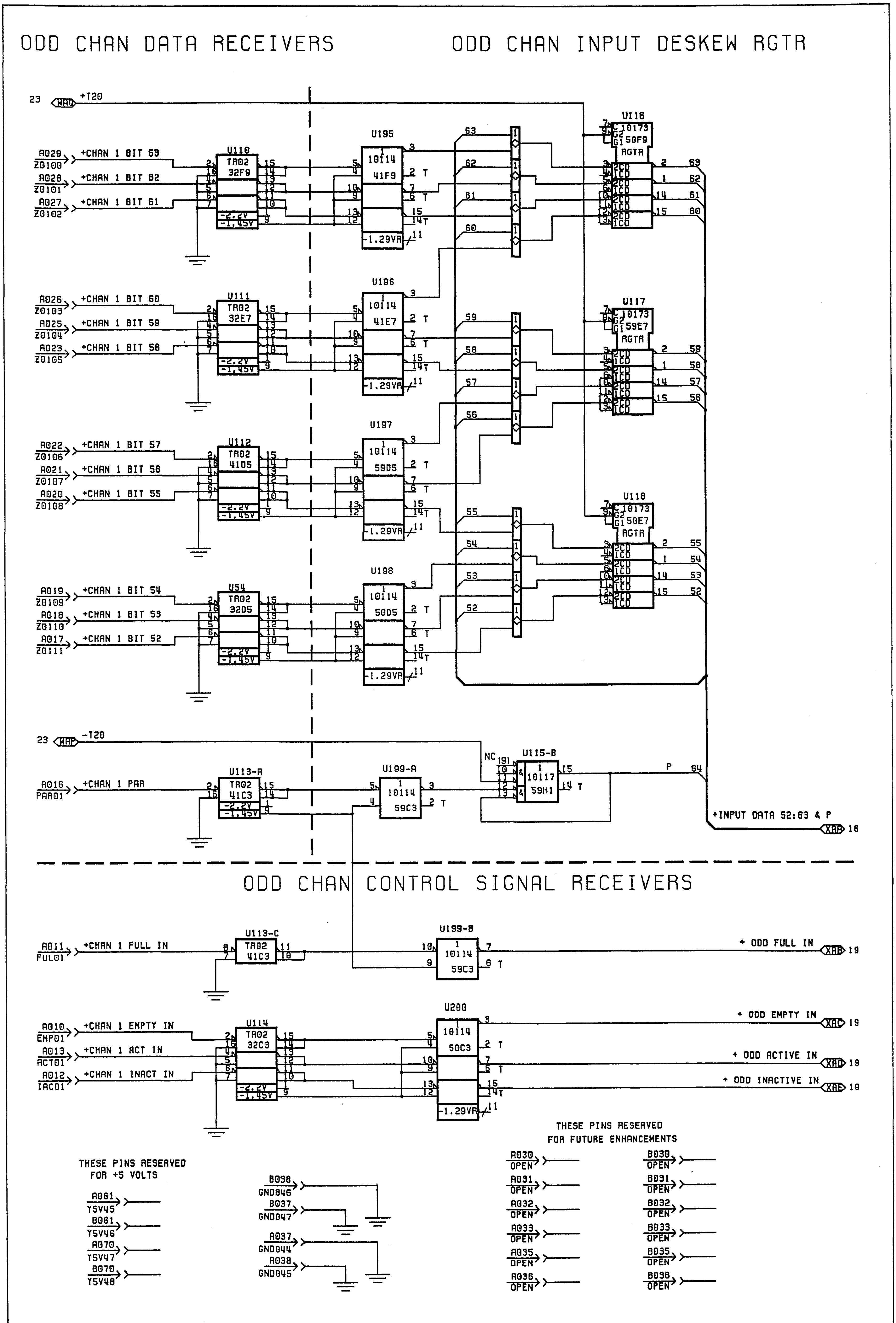


	170 CHANNEL BOARD ODD CHANNEL BAS DATA MUX BITS 48 - 55 TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
CONTROL DATA			SHEET NO. 13	60462210	PAGE JL-13

ODD CHAN BAS DATA MUX
BITS 56-63 & PAR



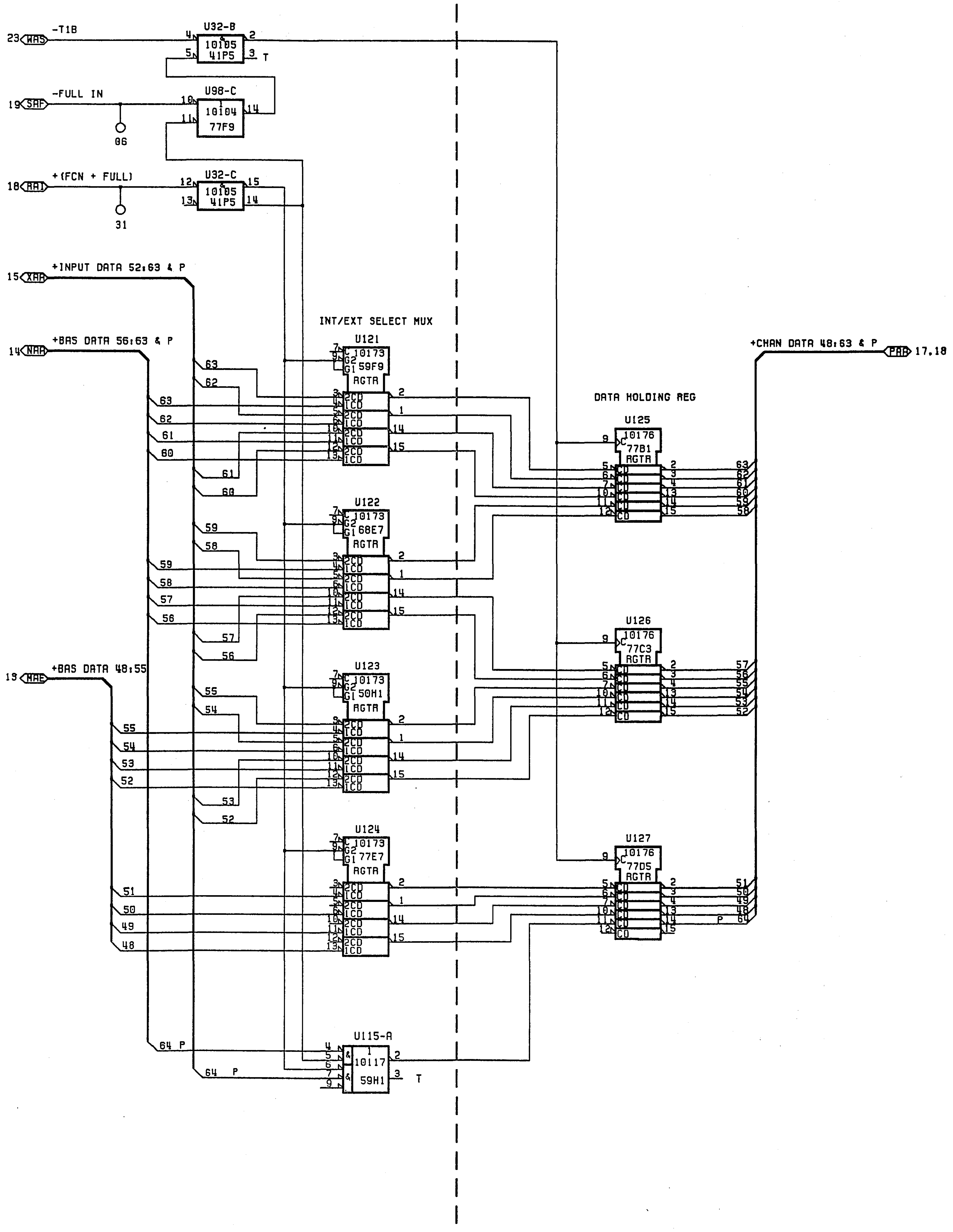
CONTROL DATA	170 CHANNEL BOARD ODD CHANNEL BAS DATA MUX BITS 56 - 63 & PARITY TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
		SHEET NO. 14	60462210	PAGE JL-14	



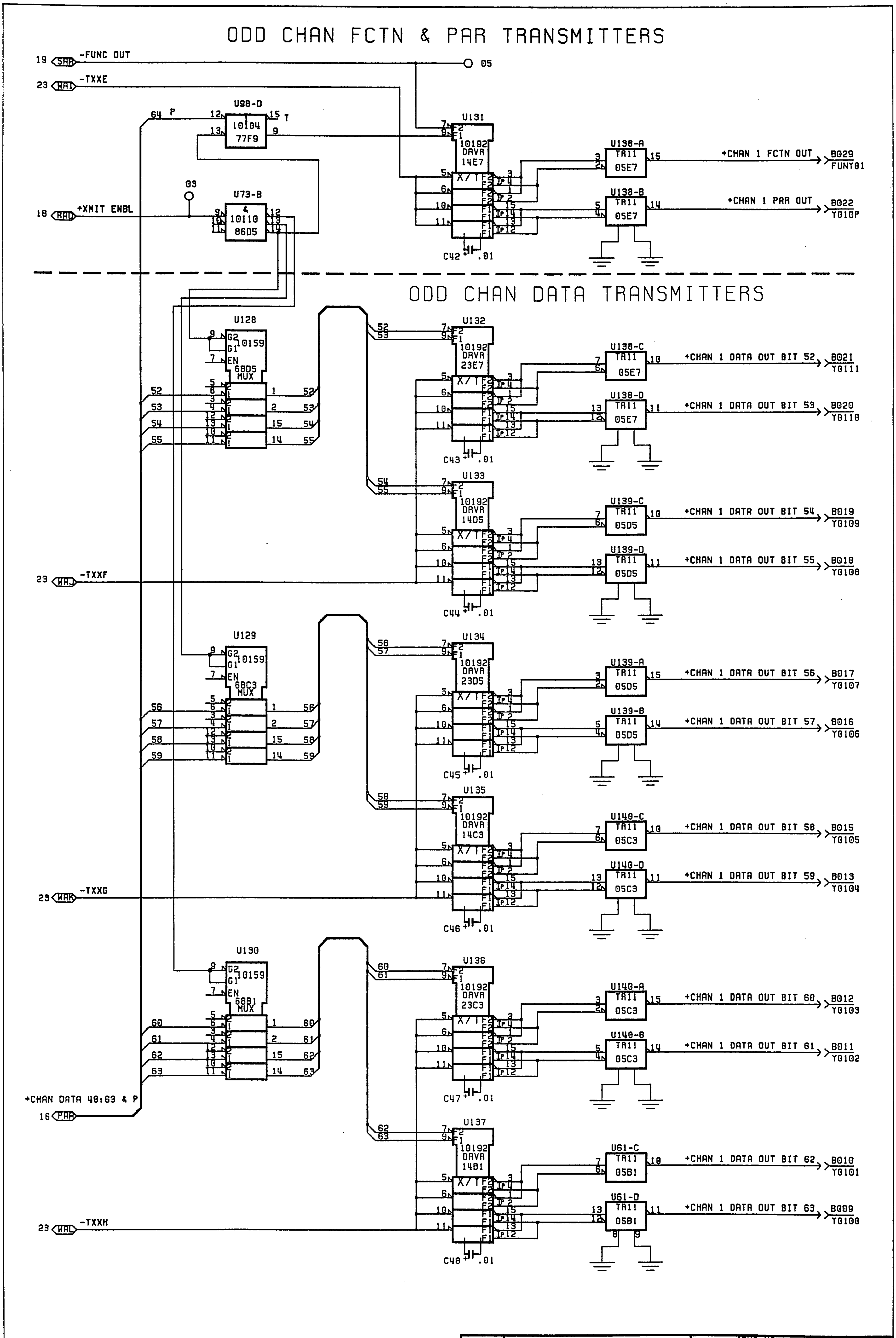
CONTROL DATA	170 CHANNEL BOARD ODD CHAN DATA RCVR'S, DESKEW REG, INPUT PAR REGEN & CONTROL RCVR'S TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
		N	SHEET NO. 15	60462210	PAGE JL-15

ODD CHAN INT/EXT SEL MUX

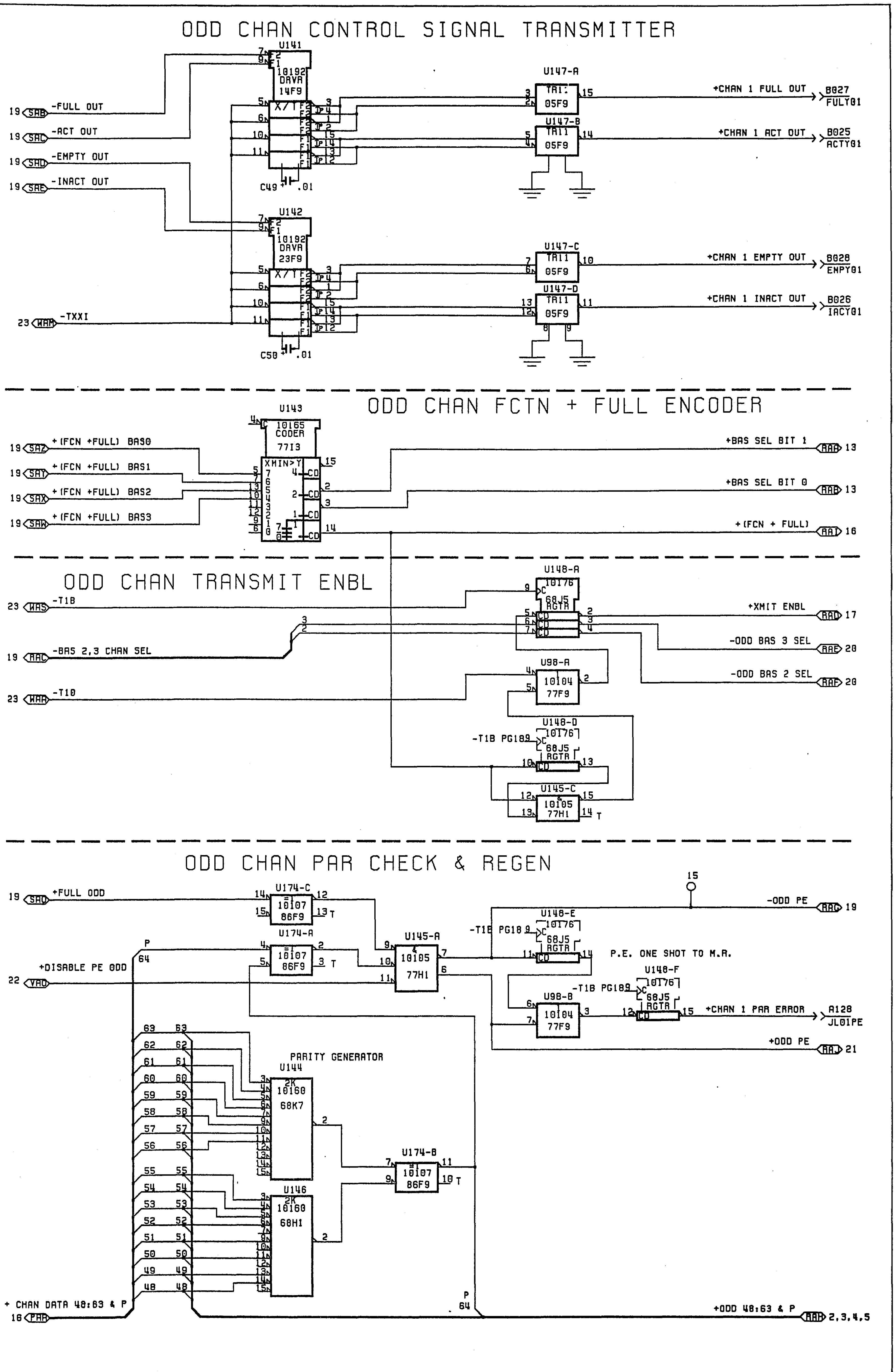
ODD CHAN DATA HLDG RGTR



CONTROL DATA	170 CHANNEL BOARD ODD CHAN INT/EXT SELECT MUX AND DATA HOLDING REGISTER TYPE 1JLH	B	DWG NO. 53575510
			DATE 11/01/85
			REV A
		SHEET NO. 16	60462210
			PAGE JL-18

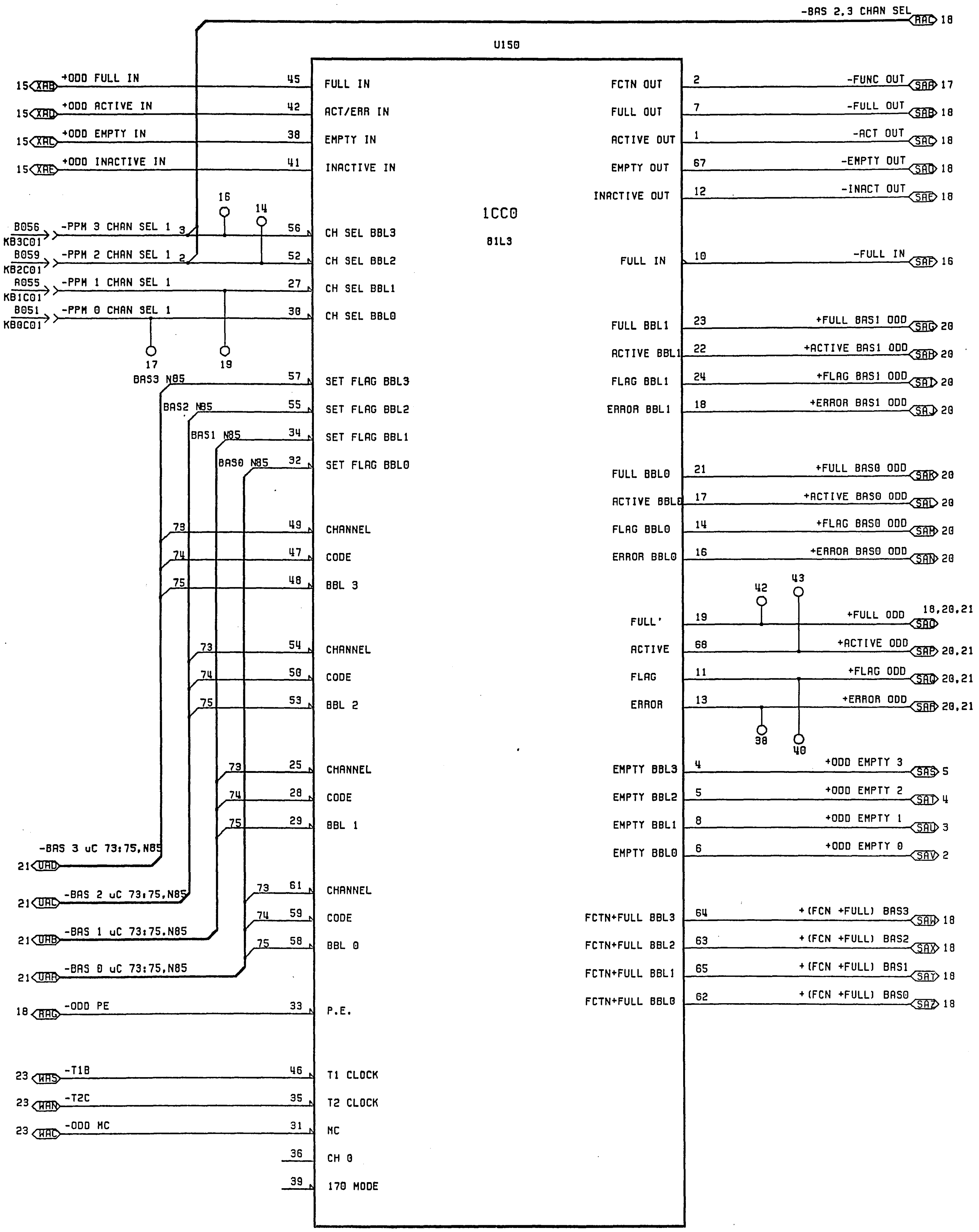


CONTROL DATA	170 CHANNEL BOARD ODD CHAN FUNC & PAR XMITR'S AND DATA TRANSMITTERS TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
		SHEET NO. 17	60462210	PAGE JL-17	



CONTROL DATA	170 CHANNEL BOARD ODD CH CTRL XMITR,FCN+FULL ENCDR ,XMIT EN AND PAR CHECK & REGEN TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
	N	SHEET NO. 18	60462210	PAGE JL-18	

ODD CHAN CONTROL



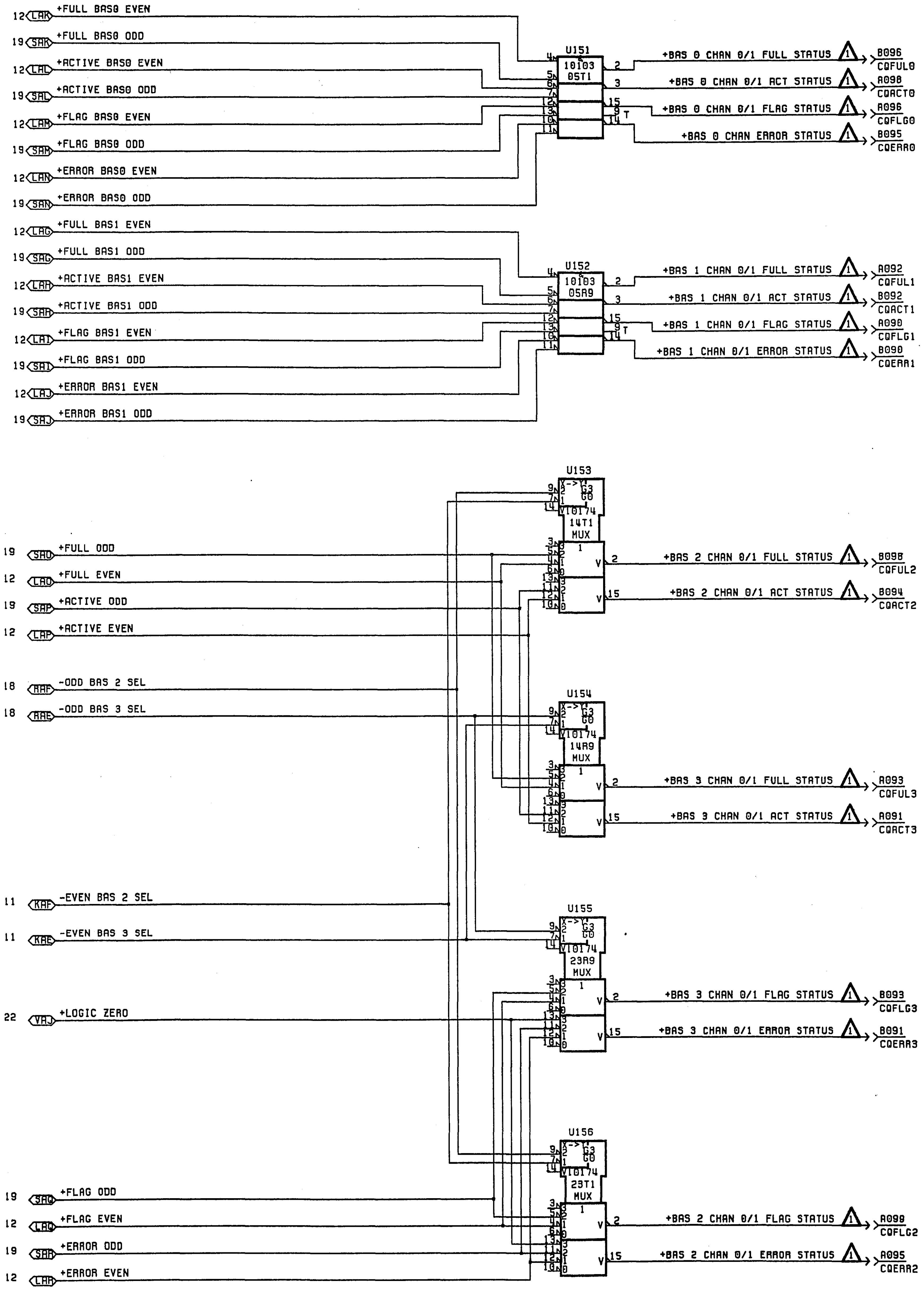
-BAS 2,3 CHAN SEL
RAC 18
U150
1CC0
81L3
15 XAB +ODD FULL IN 45 FULL IN
15 XAD +ODD ACTIVE IN 42 ACT/ERR IN
15 XAC +ODD EMPTY IN 38 EMPTY IN
15 XAE +ODD INACTIVE IN 41 INACTIVE IN
16
14
B056 KB3C01 -PPM 3 CHAN SEL 1 3 56 CH SEL BBL3
B059 KB2C01 -PPM 2 CHAN SEL 1 2 52 CH SEL BBL2
A055 KB1C01 -PPM 1 CHAN SEL 1 27 CH SEL BBL1
B051 KB0C01 -PPM 0 CHAN SEL 1 30 CH SEL BBL0
17
19
BAS3 N85 57 SET FLAG BBL3
BAS2 N85 55 SET FLAG BBL2
BAS1 N85 34 SET FLAG BBL1
BAS0 N85 32 SET FLAG BBL0
73 49 CHANNEL
74 47 CODE
75 48 BBL 3
73 54 CHANNEL
74 50 CODE
75 53 BBL 2
73 25 CHANNEL
74 28 CODE
75 29 BBL 1
-BAS 3 uC 73:75,N85
21 UAD
73 61 CHANNEL
74 59 CODE
75 58 BBL 0
21 UAC -BAS 2 uC 73:75,N85
21 UAB -BAS 1 uC 73:75,N85
21 UAA -BAS 0 uC 73:75,N85
18 AAG -ODD PE 33 P.E.
23 WAS -T1B 46 T1 CLOCK
23 WAN -T2C 35 T2 CLOCK
23 WAC -ODD MC 31 MC
36 CH 0
39 170 MODE
FCTN OUT 2 -FUNC OUT SAB 17
FULL OUT 7 -FULL OUT SAE 18
ACTIVE OUT 1 -ACT OUT SAC 18
EMPTY OUT 67 -EMPTY OUT SAD 18
INACTIVE OUT 12 -INACT OUT SAE 18
FULL IN 10 -FULL IN SAF 16
FULL BBL1 23 +FULL BAS1 ODD SAG 20
ACTIVE BBL1 22 +ACTIVE BAS1 ODD SAH 20
FLAG BBL1 24 +FLAG BAS1 ODD SAI 20
ERROR BBL1 18 +ERROR BAS1 ODD SAJ 20
FULL BBL0 21 +FULL BAS0 ODD SAK 20
ACTIVE BBL0 17 +ACTIVE BAS0 ODD SAL 20
FLAG BBL0 14 +FLAG BAS0 ODD SAM 20
ERROR BBL0 16 +ERROR BAS0 ODD SAN 20
42
43
FULL' 19 +FULL ODD SAO 18,20,21
ACTIVE 68 +ACTIVE ODD SAP 20,21
FLAG 11 +FLAG ODD SAQ 20,21
ERROR 13 +ERROR ODD SAR 20,21
38
40
EMPTY BBL3 4 +ODD EMPTY 3 SAS 5
EMPTY BBL2 5 +ODD EMPTY 2 SAT 4
EMPTY BBL1 8 +ODD EMPTY 1 SAU 3
EMPTY BBL0 6 +ODD EMPTY 0 SAV 2
FCTN+FULL BBL3 64 +(FCN +FULL) BAS3 SAW 18
FCTN+FULL BBL2 63 +(FCN +FULL) BAS2 SAX 18
FCTN+FULL BBL1 65 +(FCN +FULL) BAS1 SAY 18
FCTN+FULL BBL0 62 +(FCN +FULL) BAS0 SAZ 18

CONTROL DATA

170 CHANNEL BOARD
ODD CHANNEL CONTROL LOGIC
TYPE 1JLH

	DWG NO.	DATE	REV
B	53575510	11/01/85	A
SHEET NO. 19	60462210	PAGE JL-19	

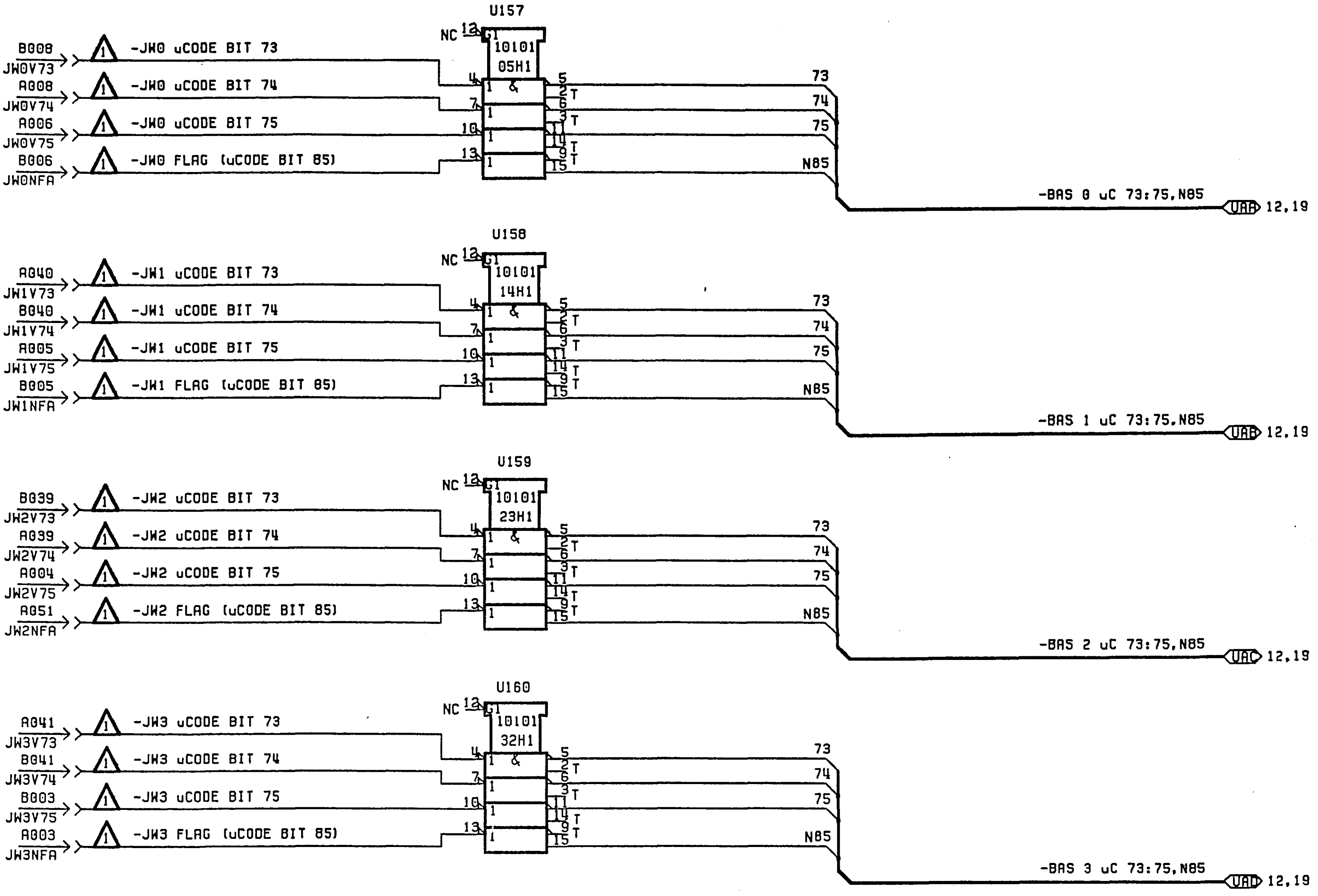
CHAN STATUS MUX



⚠ SHORT 3" MAX

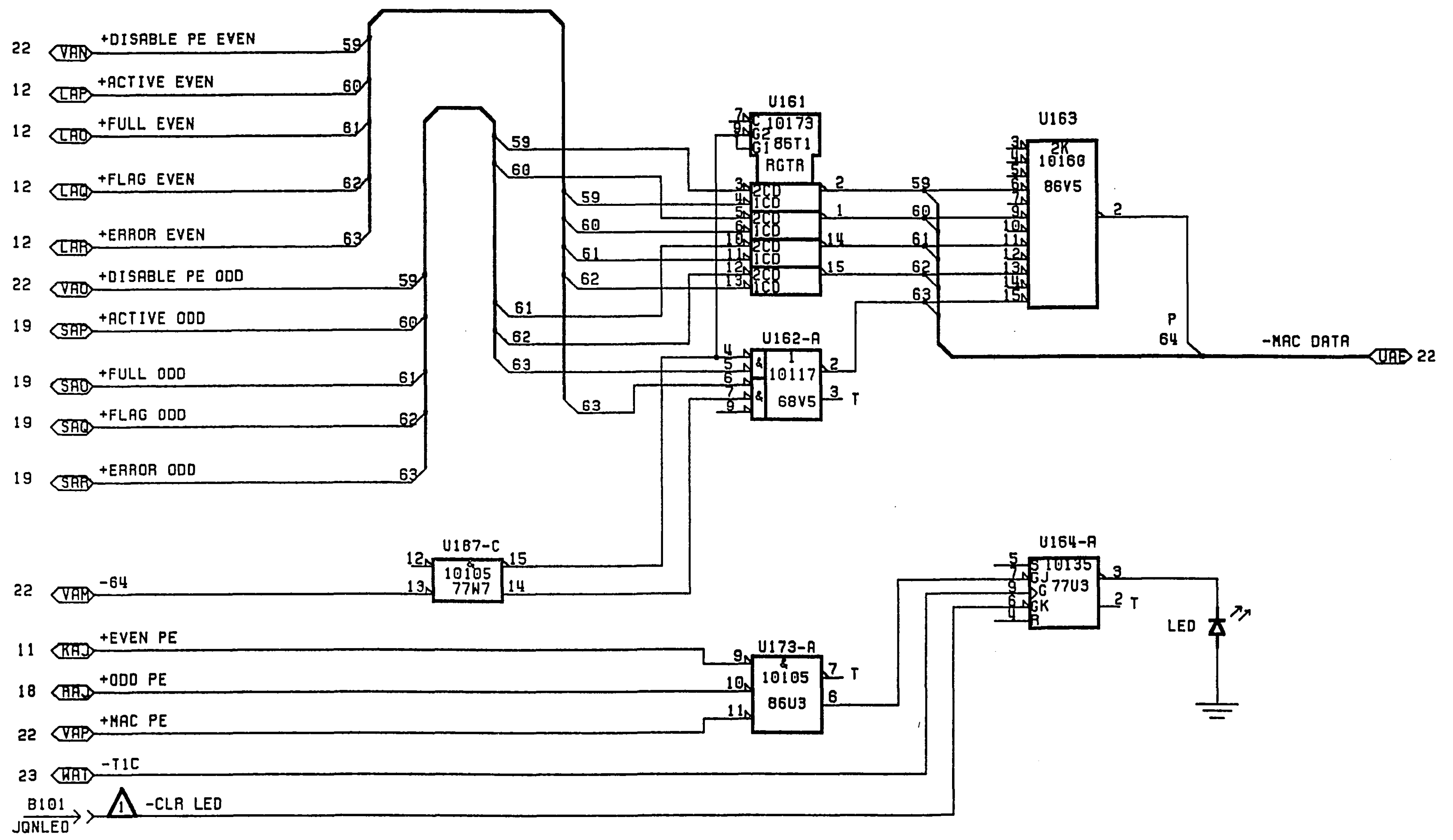
CONTROL DATA	170 CHANNEL BOARD CHANNEL STATUS MUX	B	DWG NO. 53575510	DATE 11/01/85	REV A
	TYPE 1JLH	SHEET NO. 20	60462210	PAGE JL-20	

uCODE BUFFERS



U157
10101
05H1
NC 12
B008 JW0V73 -JW0 uCODE BIT 73
A008 JW0V74 -JW0 uCODE BIT 74
A006 JW0V75 -JW0 uCODE BIT 75
B006 JW0NFA -JW0 FLAG (uCODE BIT 85)
73
74
75
N85
-BAS 0 uC 73:75,N85
UAB 12,19
U158
10101
14H1
A040 JW1V73 -JW1 uCODE BIT 73
B040 JW1V74 -JW1 uCODE BIT 74
A005 JW1V75 -JW1 uCODE BIT 75
B005 JW1NFA -JW1 FLAG (uCODE BIT 85)
-BAS 1 uC 73:75,N85
UAB 12,19
U159
10101
23H1
B039 JW2V73 -JW2 uCODE BIT 73
A039 JW2V74 -JW2 uCODE BIT 74
A004 JW2V75 -JW2 uCODE BIT 75
A051 JW2NFA -JW2 FLAG (uCODE BIT 85)
-BAS 2 uC 73:75,N85
UAC 12,19
U160
10101
32H1
A041 JW3V73 -JW3 uCODE BIT 73
B041 JW3V74 -JW3 uCODE BIT 74
B003 JW3V75 -JW3 uCODE BIT 75
A003 JW3NFA -JW3 FLAG (uCODE BIT 85)
-BAS 3 uC 73:75,N85
UAD 12,19

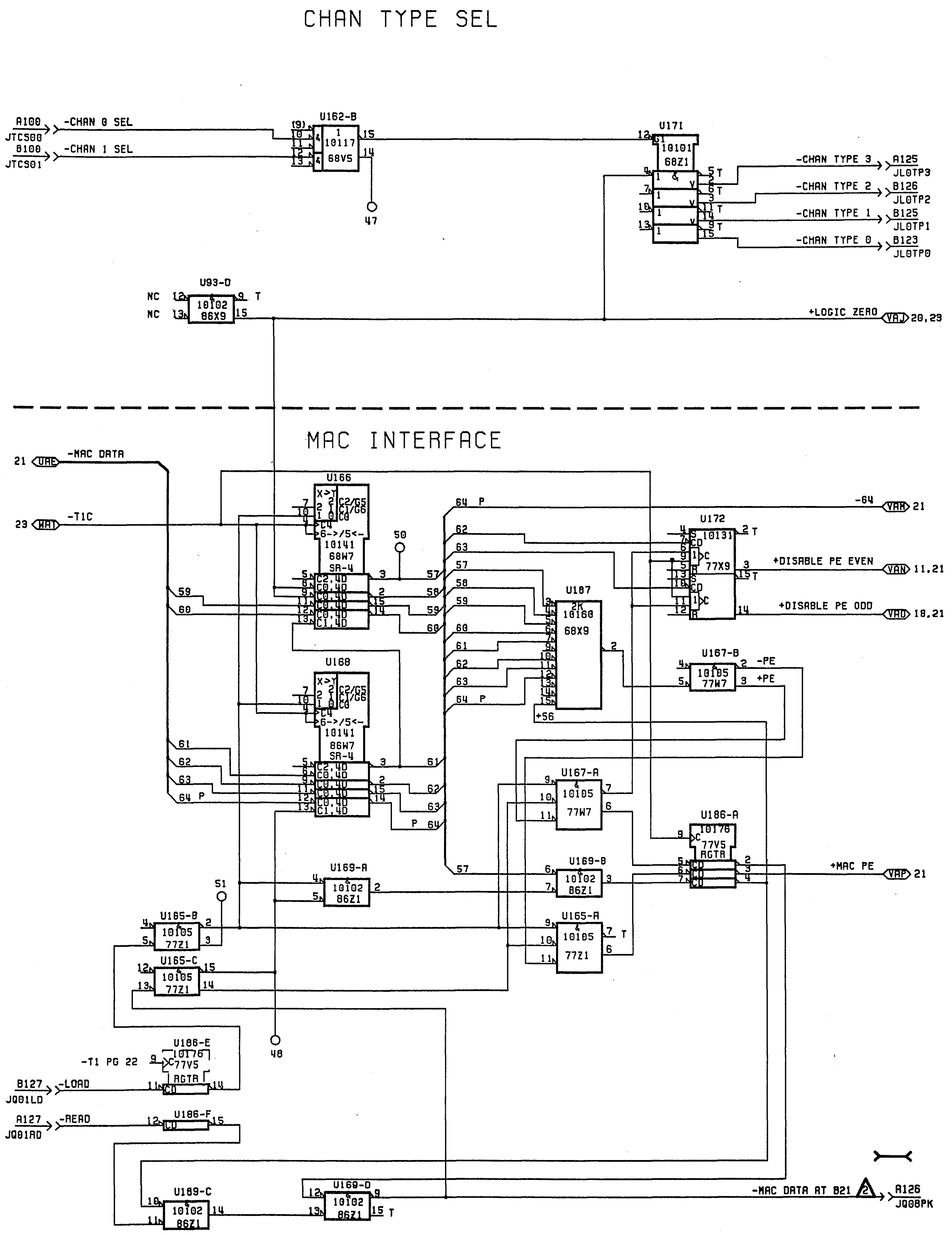
MAC DATA MUX



CONTROL DATA

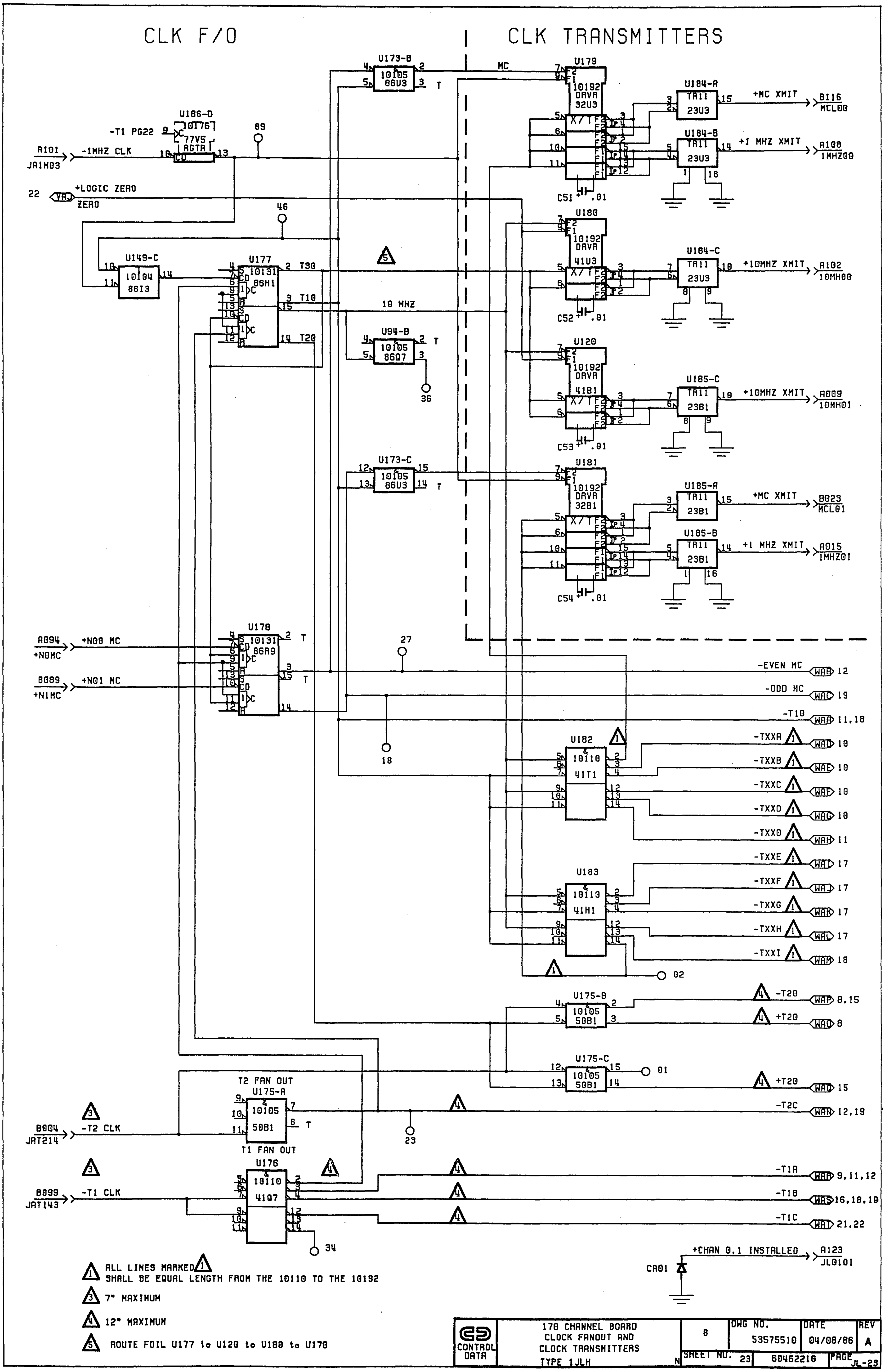
170 CHANNEL BOARD
MICROCODE BUFFERS AND
MAC DATA MUX
TYPE 1JLH

B	DWG NO. 53575510		DATE 04/08/86	REV A
SHEET NO. 21	60462210		PAGE JL-21	



2 TERMINATED ON THIS BOARD

CONTROL DATA	170 CHANNEL BOARD ONE & ZERO SOURCE CHAN TYPE SEL & MAC INTERFACE TYPE 1JLH	B	DWG NO. 53575510	DATE 04/08/86	REV A
			SHEET NO. 22	60462210	PAGE JL-22



1. ALL LINES MARKED 1 SHALL BE EQUAL LENGTH FROM THE 10110 TO THE 10192
3. 7" MAXIMUM
4. 12" MAXIMUM
5. ROUTE FOIL U177 to U120 to U180 to U178

CONTROL DATA	170 CHANNEL BOARD CLOCK FANOUT AND CLOCK TRANSMITTERS TYPE 1JLH	B	DWG NO. 53575510	DATE 04/08/86	REV A
		N	SHEET NO. 23	60462210	PAGE JL-23

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	23	-T20	27	23	-EVEN MASTER CLEAR
02	23	-TXX CLOCK	28	12	-PPM 0 CHAN SEL EVEN
03	17	+XMIT ENABLE ODD	29	12	-PPM 3 CHAN SEL EVEN
04	10	+XMIT ENABLE EVEN	30	12	-PPM 1 CHAN SEL EVEN
05	17	-FUNC OUT ODD	31	16	+(FCN+FULL) ODD
06	16	-FULL IN ODD	32	09	-PAR BT EVEN SEL MUX
07	04	+ENABLE BAS2 INPUT	33	05	+ENABLE BAS3 INPUT
08	13	+BAS SEL BIT 0 ODD	34	23	-T1 CLOCK
09	23	-1MHZ	35	09	+(FCN+FULL) EVEN
10	02	+BAS 0 DATA PAR BIT	36	23	-T40
11	13	+BAS SEL BIT 1 ODD	37	12	+ERROR EVEN
12	02	+ENABLE BAS0 INPUT	38	19	+ERROR ODD
13	03	+ENABLE BAS1 INPUT	39	12	+FLAG EVEN
14	19	-PPM 2 CHAN SEL ODD	40	19	+FLAG ODD
15	18	-PARITY ERROR ODD	41	12	+FULL EVEN
16	19	-PPM 3 CHAN SEL ODD	42	19	+FULL ODD
17	19	-PPM 0 CHAN SEL ODD	43	19	+ACTIVE ODD
18	23	-ODD MASTER CLEAR	44	12	+ACTIVE EVEN
19	19	-PPM 1 CHAN SEL ODD	45	09	-FULL IN EVEN
20	,	,	46	23	-T10
21	06	+BAS SEL BIT 0 EVEN	47	22	+BOARD TYPE SEL
22	06	+BAS SEL BIT 1 EVEN	48	22	+MAC SERIAL DATA
23	23	-T2 CLOCK	49	10	-FUNC OUT EVEN
24	12	-PPM 2 CHAN SEL EVEN	50	22	-MAC BIT 57
25	,	,	51	22	+LOAD
26	11	-PARITY ERROR EVEN			

CONNECTOR PINS	
GND	A014,B014,A024,B024,A034,B034,A054,B054,A065, B065,A066,B066,A077,B077,A097,B097,A107, B107,A117,B117,A037,A038,B037,B038,B128
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	A061,B061,A070,B070
TERM	NONE
UNUSED	A030,B030,A031,B031,A032,B032,A033,B033, A035,B035,A036,B036

CONTROL DATA	170 CHANNEL BOARD TESTPOINTS & SIGNAL NAMES AND CONNECTOR PINS TYPE 1JLH	B	DWG NO. 53575510	DATE 11/01/85	REV A
	N	SHEET NO. 24	60462210	PAGE JL-24	

1JMH UTC BOARD

REVISION HISTORY B/M 41652301			
DATE	REV	DESCRIPTION OF CHANGE	INIT
11/01/85	A	CLASS A RELEASE OF LOGIC DIAGRAMS	
		WITH ECO #46886 INSTALLED	DAZ
07/07/86	B	ECO #47746 ADDS B/M NO. TO PAGE 1.	SLP
08/24/87	C	ECO #49123 PAGE 26	
01/21/88	D	ECO #49505 DIAGRAM CORRECTIONS TO	
		SHEET 14.	DS

NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED
NOTE: BAS(0-3) ARE IN THE NIO
BAS C0 AND BAS C1 ARE IN THE CIO

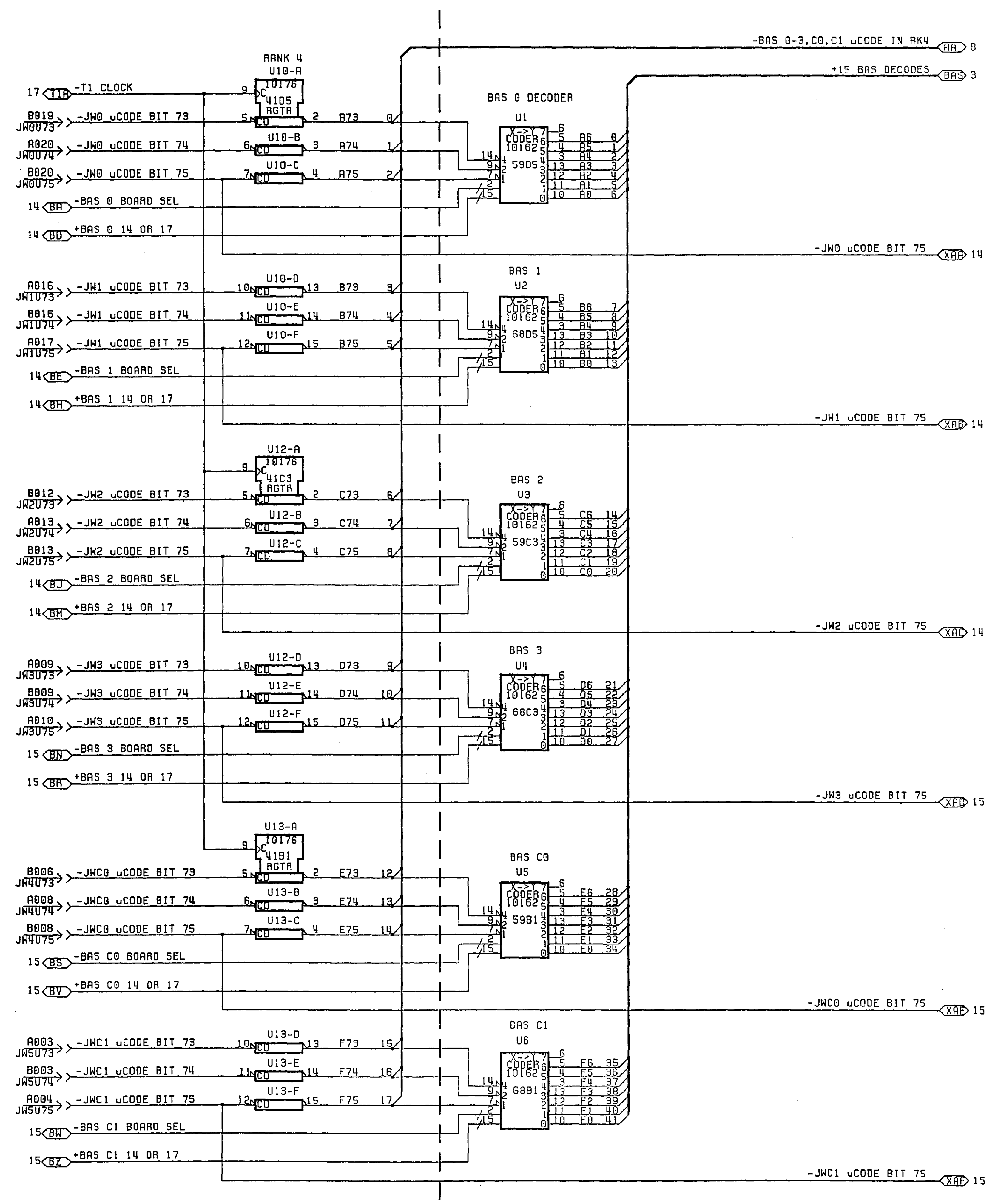
DWN	L H JOHNSON	11/01/85
CHKD	D R FORD	12/04/85
ENG	D A ZAHALAN	12/05/85
PUBS	R K BONDE	12/05/85
APP	D A ZAHALAN	12/05/85

LOC: B01

CONTROL DATA
REVISION HISTORY
TYPE 1JMH
N
B
DWG NO. 53575511
DATE 06/14/88
REV D
SHEET NO. 1
60462210
PAGE JM-01

uCODE BITS 73-75 RANK 4

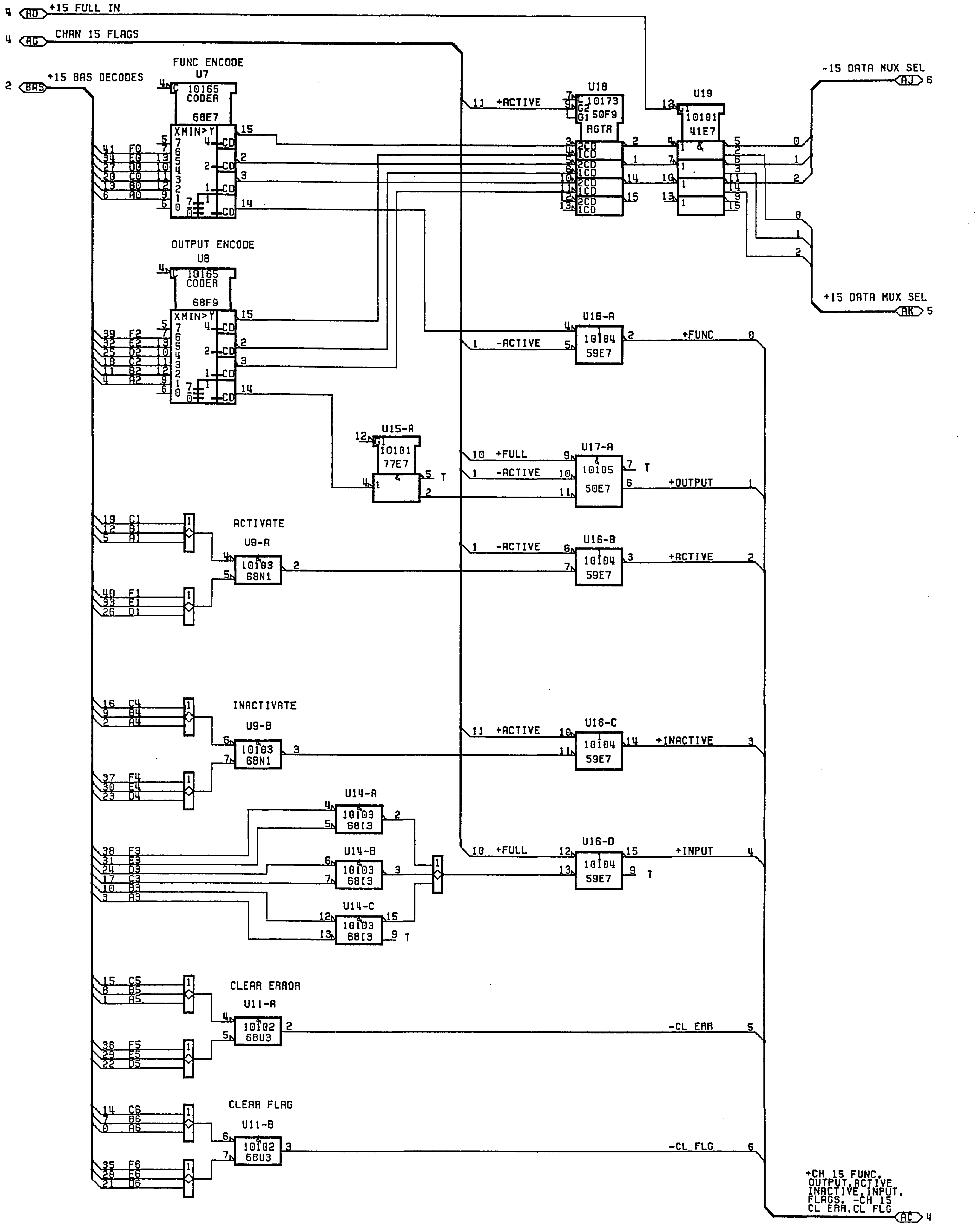
CHAN 15 uCODE DCDR



BAS uCODE DECODES		
A0-F	0	FUNCTION
A1-F	1	ACTIVE
A2-F	2	OUTPUT
A3-F	3	INPUT
A4-F	4	INACTIVATE
A5-F	5	CLR ERROR
A6-F	6	CLR FLAG

CONTROL DATA	UTC BOARD MIRCODE BITS 73-75 RANK 4 CHAN 15 MICROCODE DECODE TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		SHEET NO. 2	60462210	PAGE JM-02	

CHAN 15 uCODE TRANSLATORS



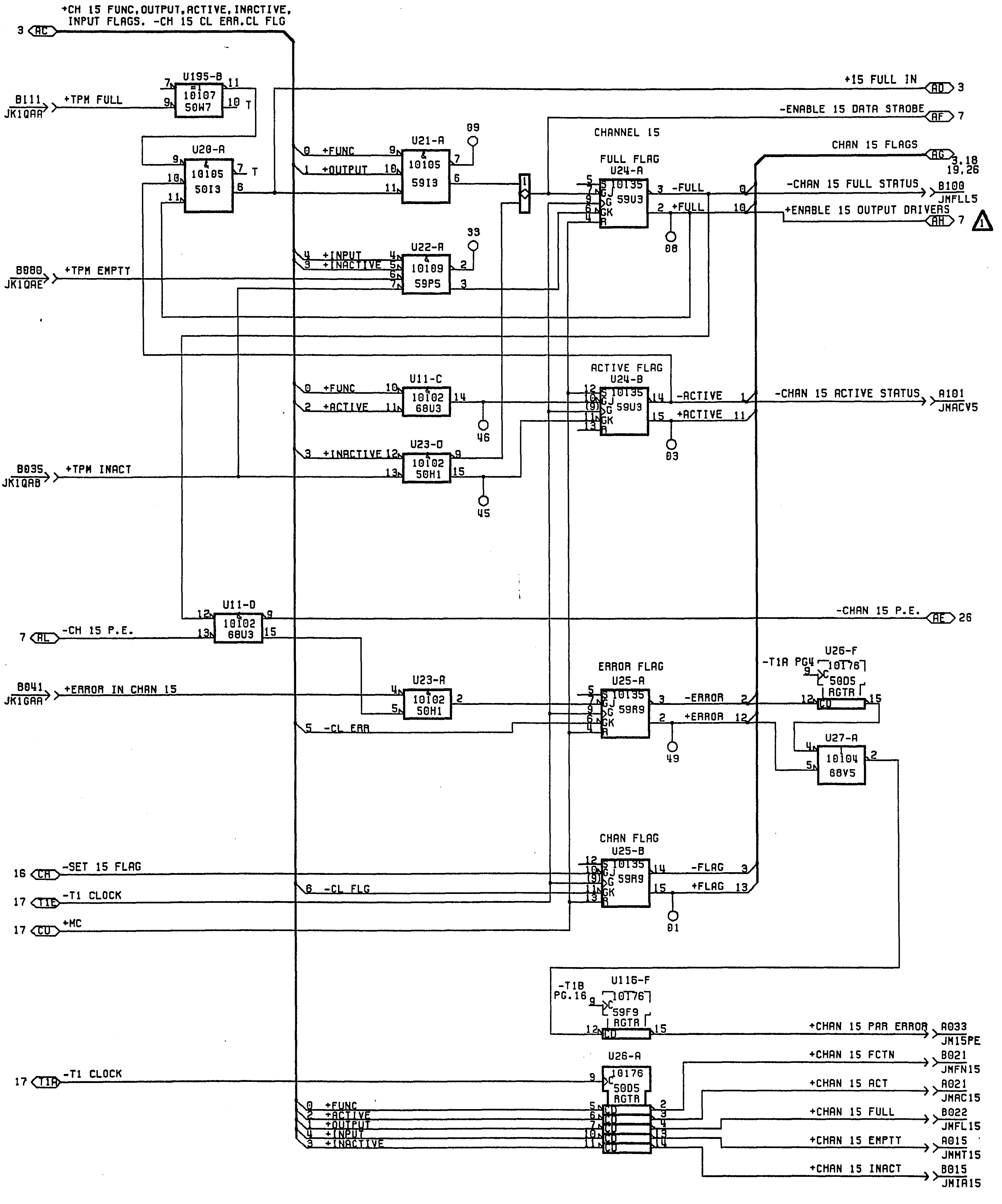
BAS uCODE DECODES		
A0-F	0	FUNCTION
A1-F	1	ACTIVE
A2-F	2	OUTPUT
A3-F	3	INPUT
A4-F	4	INACTIVATE
A5-F	5	CLR ERROR
A6-F	6	CLR FLAG

CONTROL DATA

UTC BOARD
CHAN 15 MICROCODE TRANSLATORS
TYPE 1JMH

B	DWG NO. 53575511		DATE 11/01/85	REV A
SHEET NO. 3		60462218		PAGE JM-09

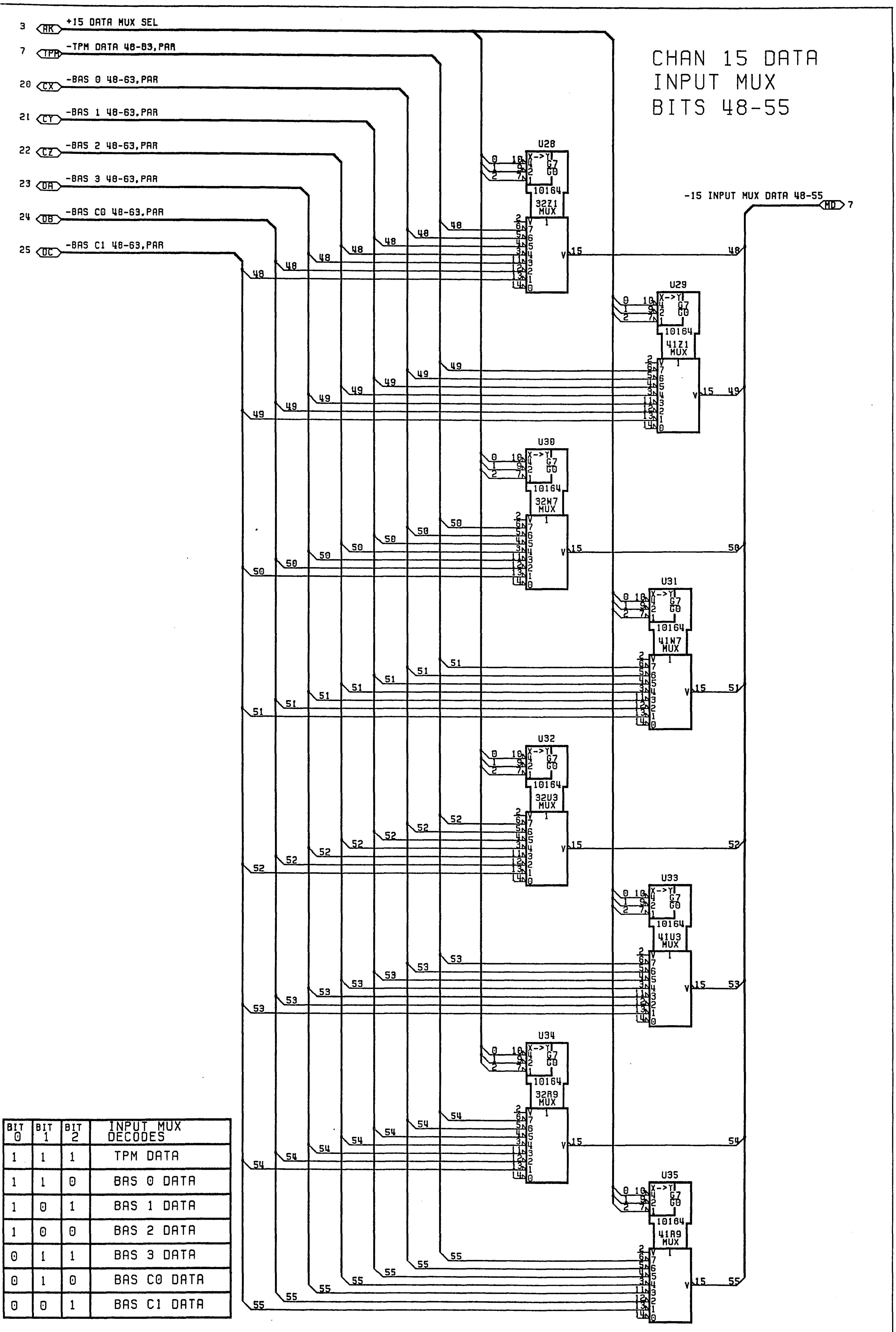
CHAN 15 FLAG RGTR



⚠1 ROUTE LINE TO 10197 1ST
10174 2ND
MISC 3RD

CONTROL DATA	UTC BOARD CHAN 15 FLAGS AND TPM CONTROL INTERFACE TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		SHEET NO. 4	60462210	PAGE JM-04	

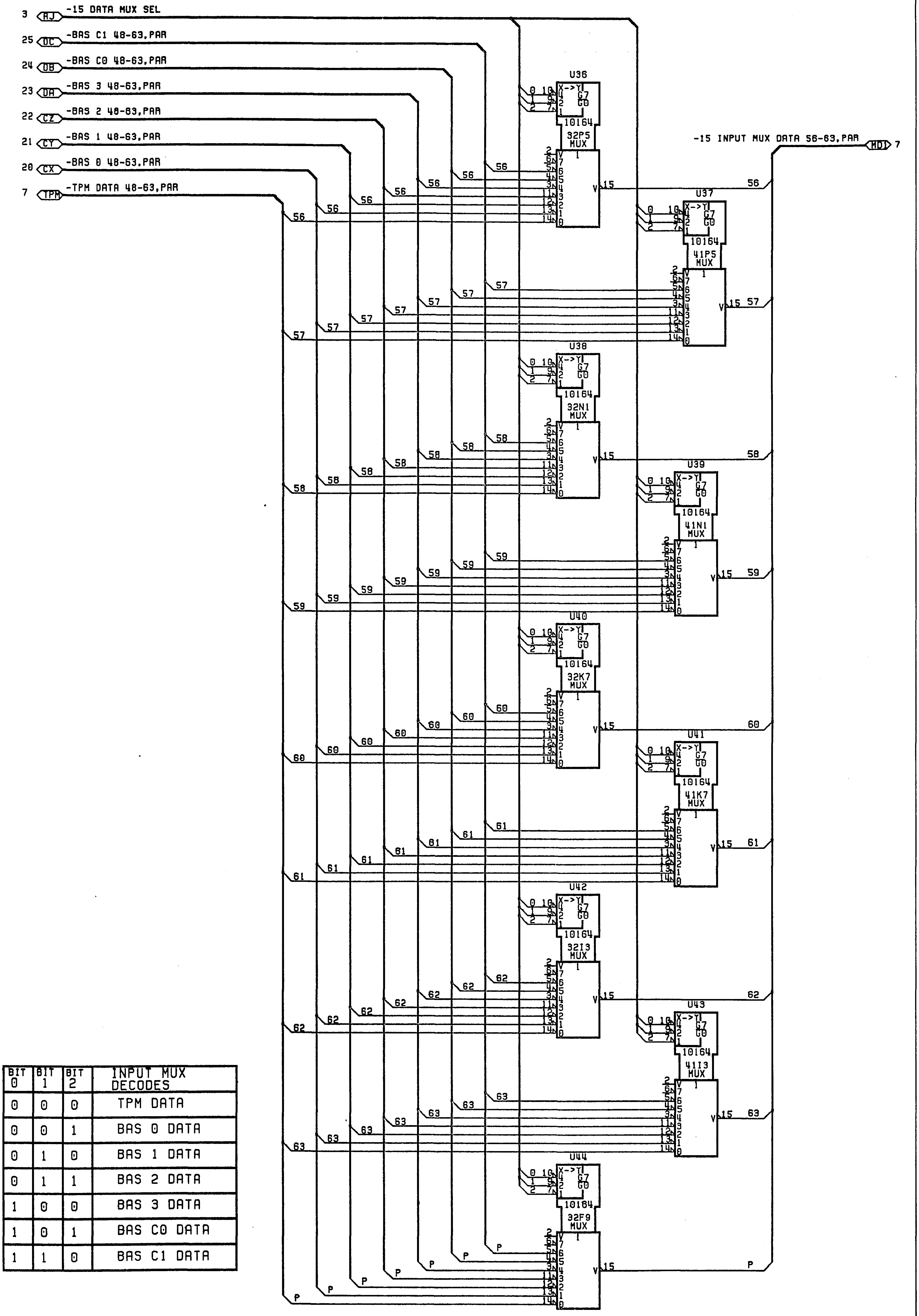
CHAN 15 DATA INPUT MUX BITS 48-55



BIT 0	BIT 1	BIT 2	INPUT MUX DECODES
1	1	1	TPM DATA
1	1	0	BAS 0 DATA
1	0	1	BAS 1 DATA
1	0	0	BAS 2 DATA
0	1	1	BAS 3 DATA
0	1	0	BAS C0 DATA
0	0	1	BAS C1 DATA

CONTROL DATA	UTC BOARD CHAN 15 DATA INPUT MUX BITS 48 - 55 TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		N	SHEET NO. 5	60462210	PAGE JM-05

CHAN 15 DATA INPUT MUX BITS 56-63,PAR



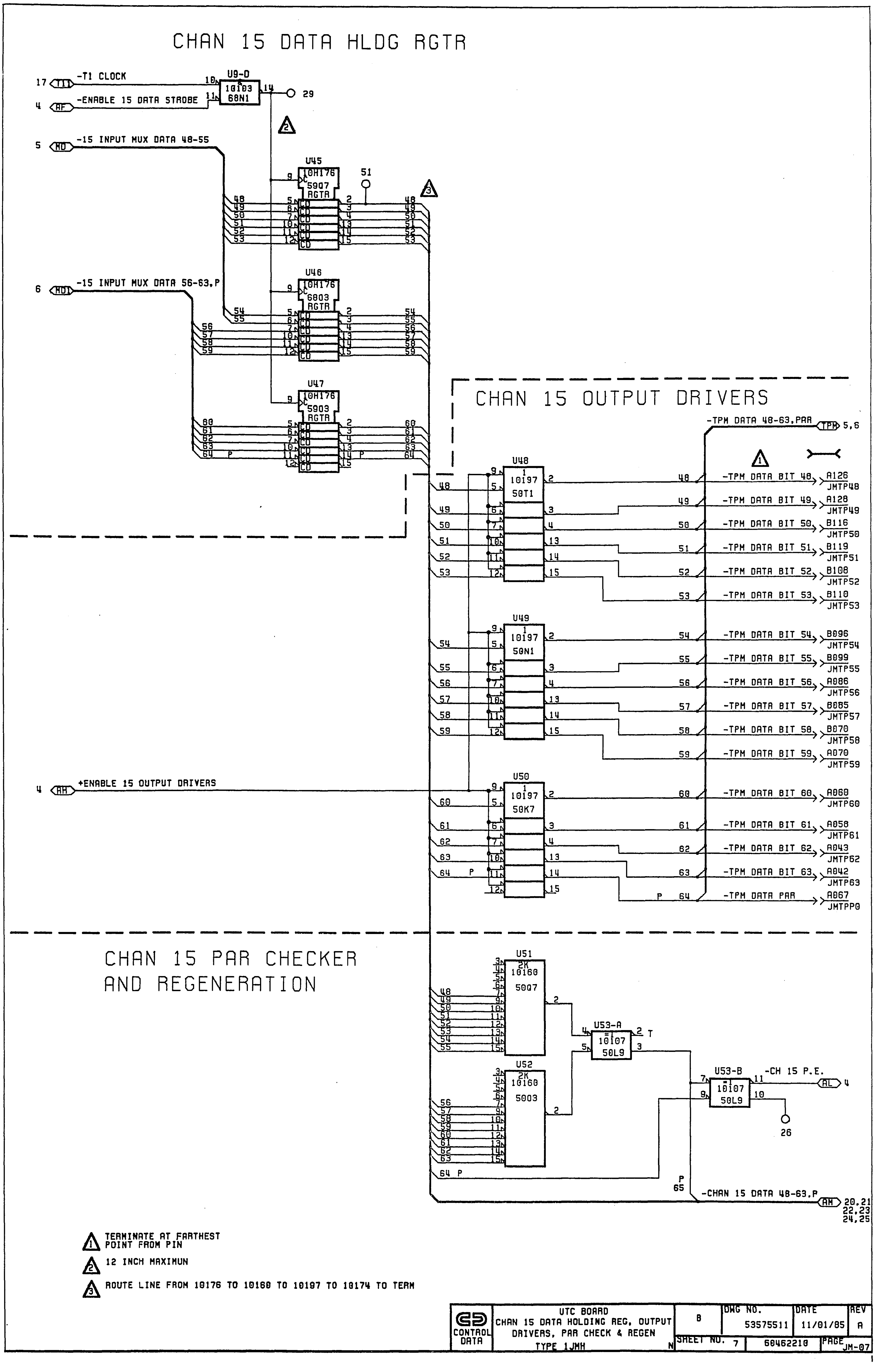
BIT 0	BIT 1	BIT 2	INPUT MUX DECODES
0	0	0	TPM DATA
0	0	1	BAS 0 DATA
0	1	0	BAS 1 DATA
0	1	1	BAS 2 DATA
1	0	0	BAS 3 DATA
1	0	1	BAS C0 DATA
1	1	0	BAS C1 DATA

CONTROL DATA

UTC BOARD
CHANNEL 15 DATA INPUT MUX
BITS 56 - 63 .P
TYPE 1JMH

B

DWG NO. 53575511
DATE 11/01/85
REV A
SHEET NO. 6
60462210
PAGE JM-08



CHAN 15 DATA HLDG RGTR
17 T11 -T1 CLOCK
4 AF -ENABLE 15 DATA STROBE
U9-D 10103 60N1
10 11 14
29
5 MD -15 INPUT MUX DATA 48-55
U45 10H176 5907 RGTR
51
6 MD1 -15 INPUT MUX DATA 56-63,P
U46 10H176 6803 RGTR
U47 10H176 5903 RGTR
48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 P
CHAN 15 OUTPUT DRIVERS
-TPM DATA 48-63,PAR TPM 5,6
U48 10197 58T1
U49 10197 58N1
U50 10197 58K7
4 AH +ENABLE 15 OUTPUT DRIVERS
-TPM DATA BIT 48 A126 JMTP48
-TPM DATA BIT 49 A128 JMTP49
-TPM DATA BIT 50 B116 JMTP50
-TPM DATA BIT 51 B119 JMTP51
-TPM DATA BIT 52 B108 JMTP52
-TPM DATA BIT 53 B110 JMTP53
-TPM DATA BIT 54 B096 JMTP54
-TPM DATA BIT 55 B099 JMTP55
-TPM DATA BIT 56 A086 JMTP56
-TPM DATA BIT 57 B085 JMTP57
-TPM DATA BIT 58 B070 JMTP58
-TPM DATA BIT 59 A070 JMTP59
-TPM DATA BIT 60 A060 JMTP60
-TPM DATA BIT 61 A058 JMTP61
-TPM DATA BIT 62 A043 JMTP62
-TPM DATA BIT 63 A042 JMTP63
-TPM DATA PAR A067 JMTPP0
CHAN 15 PAR CHECKER AND REGENERATION
U51 2K 10160 5007
U52 2K 10160 5003
U53-A 10107 50L9 T
U53-B 10107 50L9
-CH 15 P.E. AL 4
26
P 65
-CHAN 15 DATA 48-63,P AH 20,21 22,23 24,25

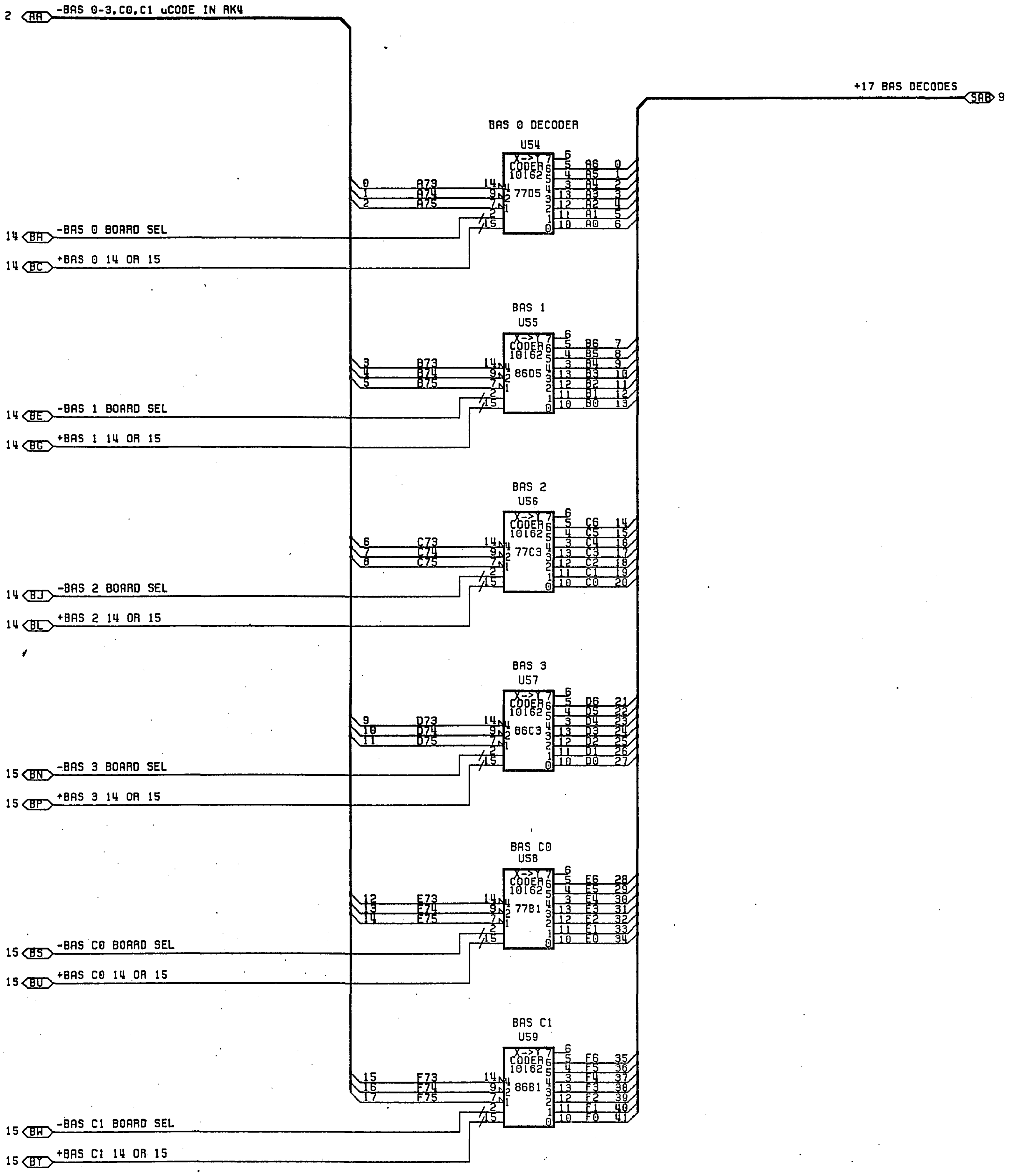
1 TERMINATE AT FARTHEST POINT FROM PIN

2 12 INCH MAXIMUN

3 ROUTE LINE FROM 10176 TO 10160 TO 10197 TO 10174 TO TERM

CONTROL DATA	UTC BOARD CHAN 15 DATA HOLDING REG, OUTPUT DRIVERS, PAR CHECK & REGEN TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		SHEET NO. 7	60462210	PAGE JM-07	

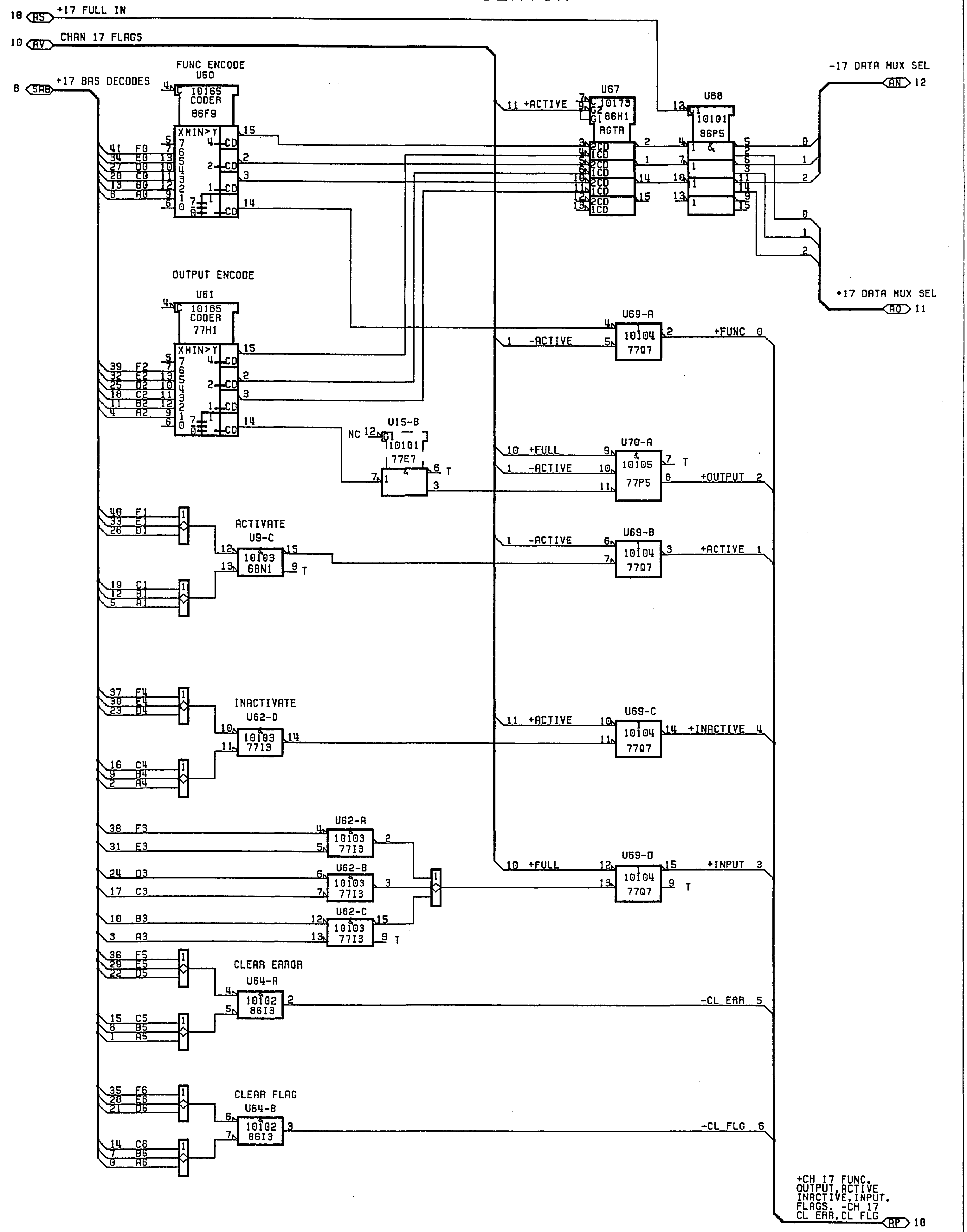
CHAN 17 uCODE DCDR



BAS uCODE DECODES		
A0-F	0	FUNCTION
A1-F	1	ACTIVE
A2-F	2	OUTPUT
A3-F	3	INPUT
A4-F	4	INACTIVATE
A5-F	5	CLR ERROR
A6-F	6	CLR FLAG

CONTROL DATA	UTC BOARD CHAN 17 MICROCODE DECODE TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		SHEET NO. 8	60462210	PAGE JM-08	

CHAN 17 uCODE TRANSLATOR



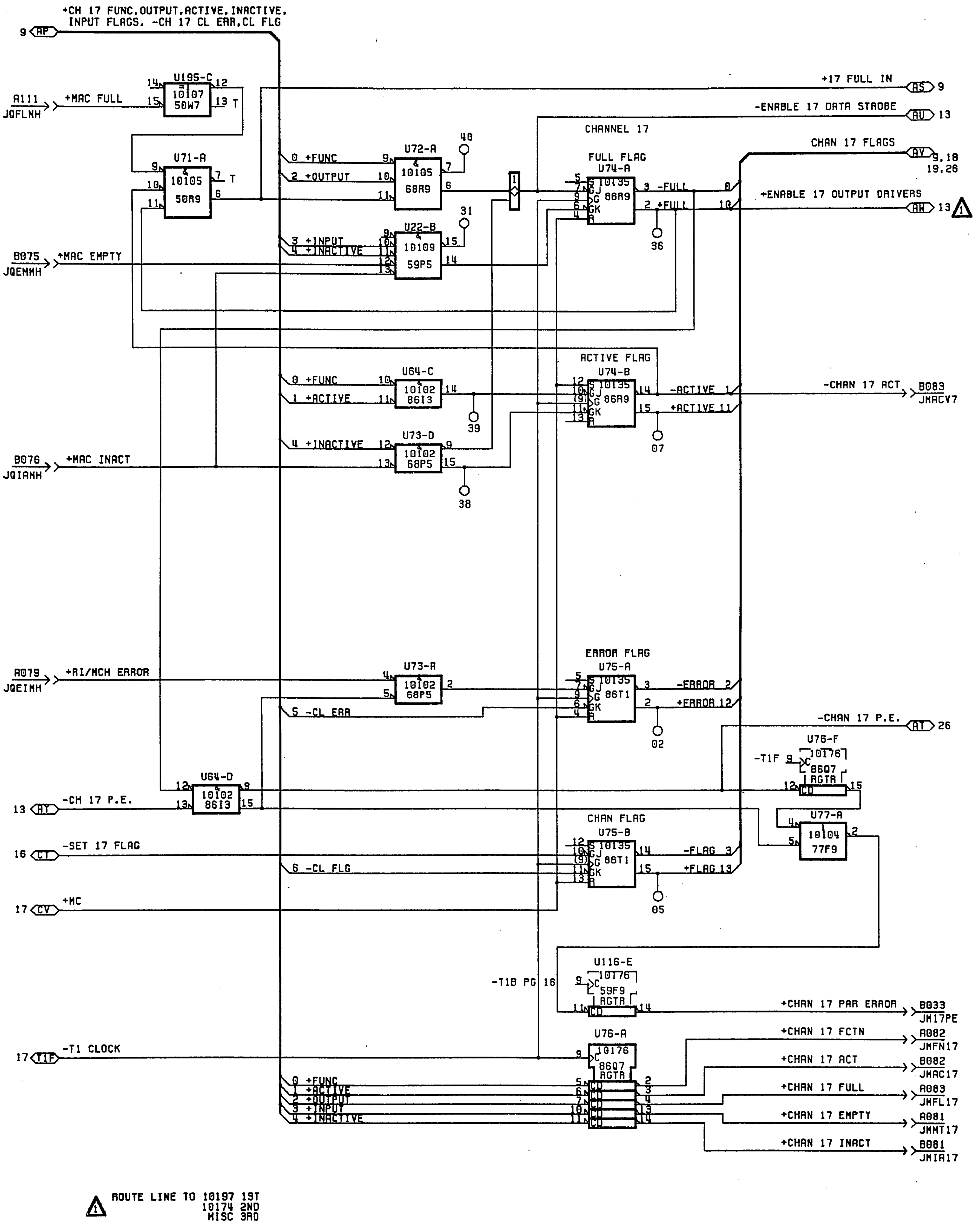
BAS uCODE DECODES		
A0-F	0	FUNCTION
A1-F	1	ACTIVE
A2-F	2	OUTPUT
A3-F	3	INPUT
A4-F	4	INACTIVATE
A5-F	5	CLR ERROR
A6-F	6	CLR FLAG

CONTROL DATA

UTC BOARD
CHAN 17 MICROCODE TRANSLATOR
TYPE 1JMH

B	DWG NO. 53575511	DATE 11/01/85	REV A	
SHEET NO. 9	60462210	PAGE JM-09		

CHAN 17 FLAG RGTR



CONTROL DATA

UTC BOARD
CHAN 17 FLAGS AND R/I
CONTROL INTERFACE
TYPE 1JMH

B

DWG NO. 53575511

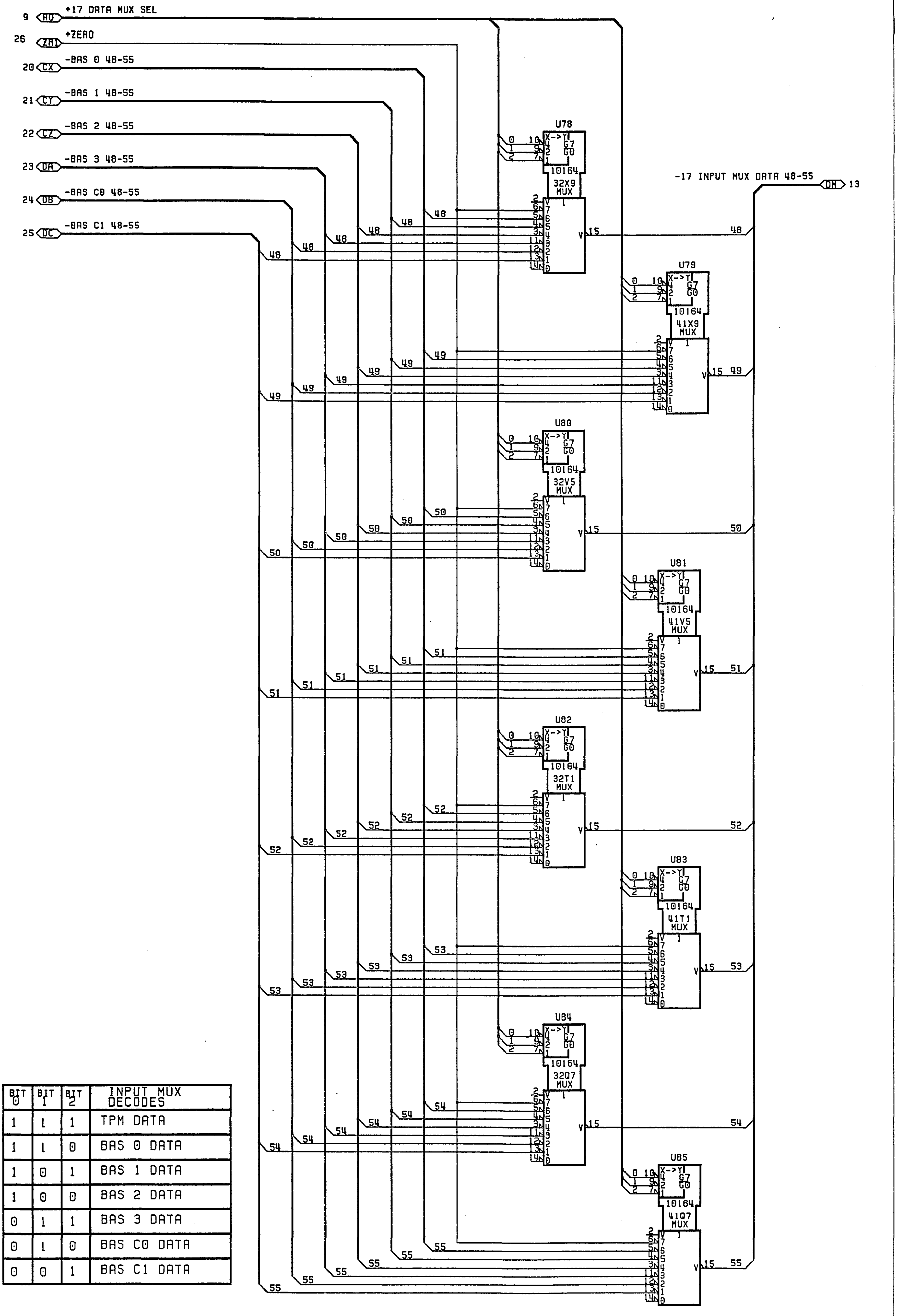
DATE 11/01/85

REV A

N SHEET NO. 10 60462210

PAGE JM-10

CHAN 17 DATA INPUT MUX BITS 48-55



BIT 0	BIT 1	BIT 2	INPUT MUX DECODES
1	1	1	TPM DATA
1	1	0	BAS 0 DATA
1	0	1	BAS 1 DATA
1	0	0	BAS 2 DATA
0	1	1	BAS 3 DATA
0	1	0	BAS C0 DATA
0	0	1	BAS C1 DATA

CONTROL DATA

UTC BOARD
CHAN 17 DATA INPUT MUX
BITS 48-55
TYPE 1JMH

N

B

DWG NO. 53575511

DATE 11/01/85

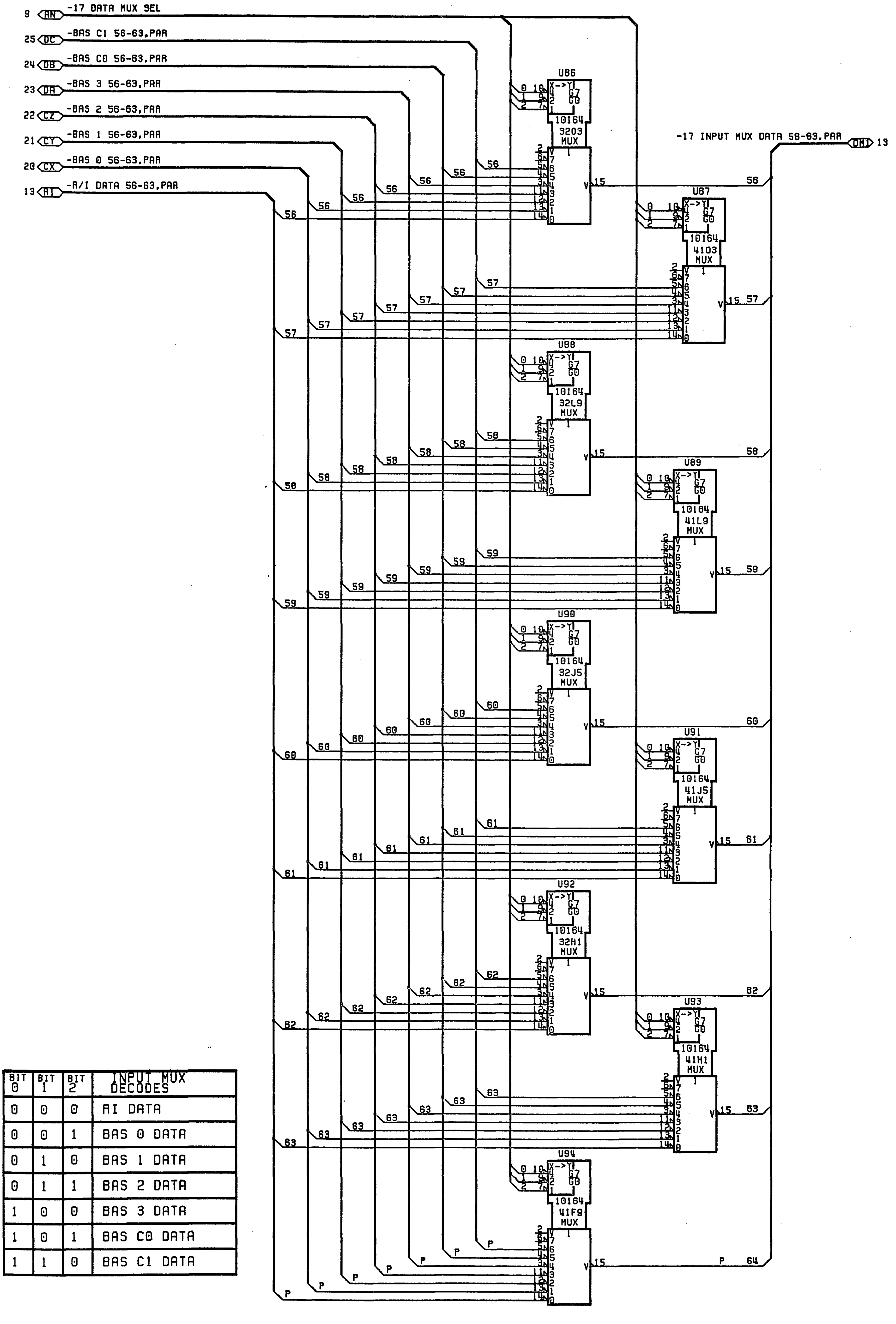
REV A

SHEET NO. 11

60462210

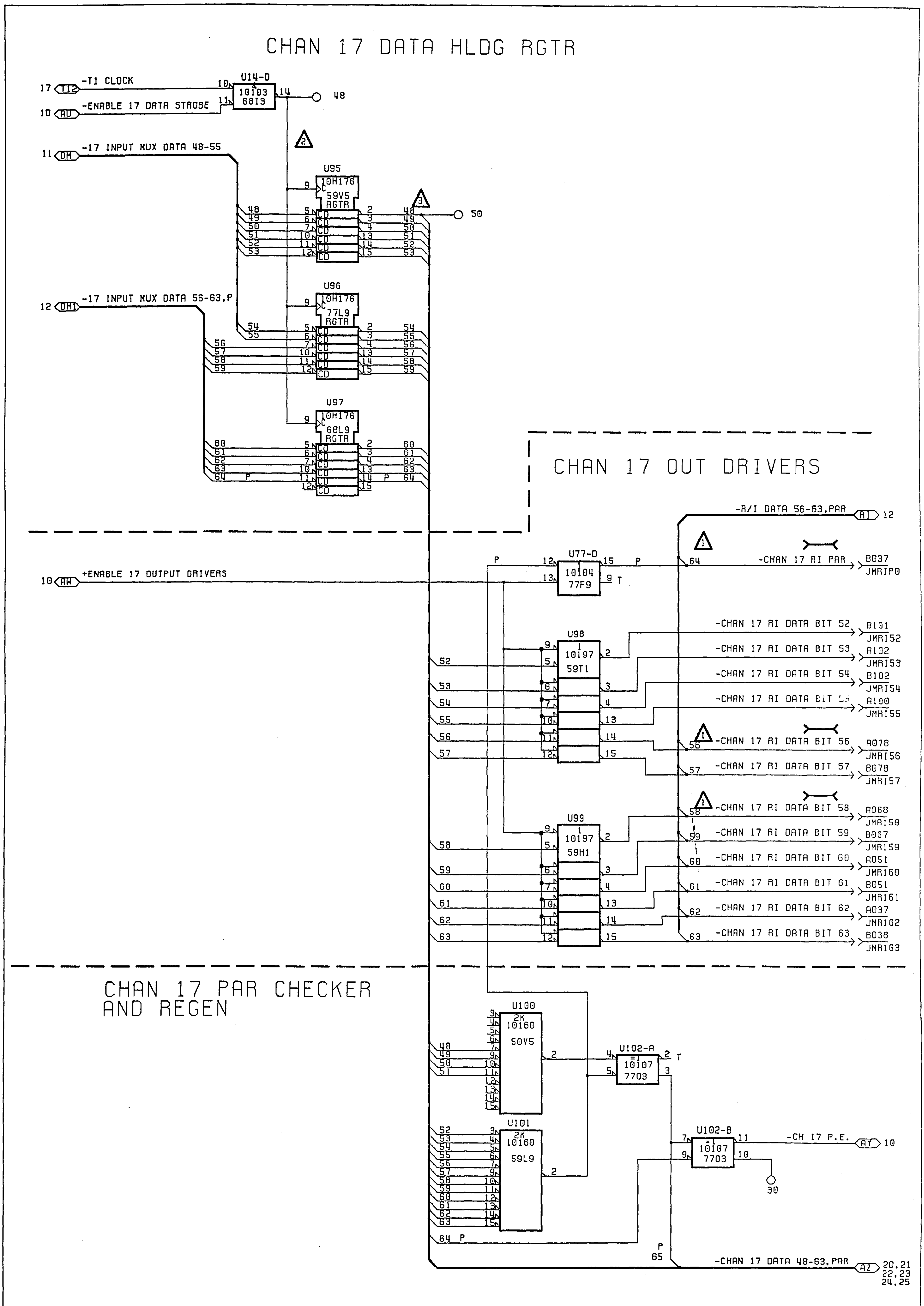
PAGE JM-11

CHAN 17 DATA INPUT MUX BITS 56-63,PAR



BIT 0	BIT 1	BIT 2	INPUT MUX DECODES
0	0	0	RI DATA
0	0	1	BAS 0 DATA
0	1	0	BAS 1 DATA
0	1	1	BAS 2 DATA
1	0	0	BAS 3 DATA
1	0	1	BAS C0 DATA
1	1	0	BAS C1 DATA

CONTROL DATA	UTC BOARD CHAN 17 DATA INPUT MUX BITS 56 - 63 ,PAR TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		N	SHEET NO. 12	60462210	PAGE JM-12


CHAN 17 DATA HLDG RGTR
17 T12 -T1 CLOCK
10 AU -ENABLE 17 DATA STROBE
U14-D 10103 68I3
48
11 DM -17 INPUT MUX DATA 48-55
U95 10H176 59V5 RGTR
50
12 DM1 -17 INPUT MUX DATA 56-63.P
U96 10H176 77L9 RGTR
U97 10H176 68L9 RGTR
CHAN 17 OUT DRIVERS
10 AW +ENABLE 17 OUTPUT DRIVERS
U77-D 10104 77F9
-A/I DATA 56-63.PAR AI 12
-CHAN 17 AI PAR B037 JMAIP0
U98 10197 59T1
-CHAN 17 AI DATA BIT 52 B101 JMAI52
-CHAN 17 AI DATA BIT 53 A102 JMAI53
-CHAN 17 AI DATA BIT 54 B102 JMAI54
-CHAN 17 AI DATA BIT 55 A100 JMAI55
-CHAN 17 AI DATA BIT 56 A078 JMAI56
-CHAN 17 AI DATA BIT 57 B078 JMAI57
U99 10197 59H1
-CHAN 17 AI DATA BIT 58 A068 JMAI58
-CHAN 17 AI DATA BIT 59 B067 JMAI59
-CHAN 17 AI DATA BIT 60 A051 JMAI60
-CHAN 17 AI DATA BIT 61 B051 JMAI61
-CHAN 17 AI DATA BIT 62 A037 JMAI62
-CHAN 17 AI DATA BIT 63 B038 JMAI63
CHAN 17 PAR CHECKER AND REGEN
U100 2K 10160 50V5
U101 2K 10160 59L9
U102-A 10107 7703
U102-B 10107 7703
-CH 17 P.E. AY 10
30
-CHAN 17 DATA 48-63.PAR AZ 20,21 22,23 24,25

1 TERMINATE AT FARTHEST POINT FROM PIN

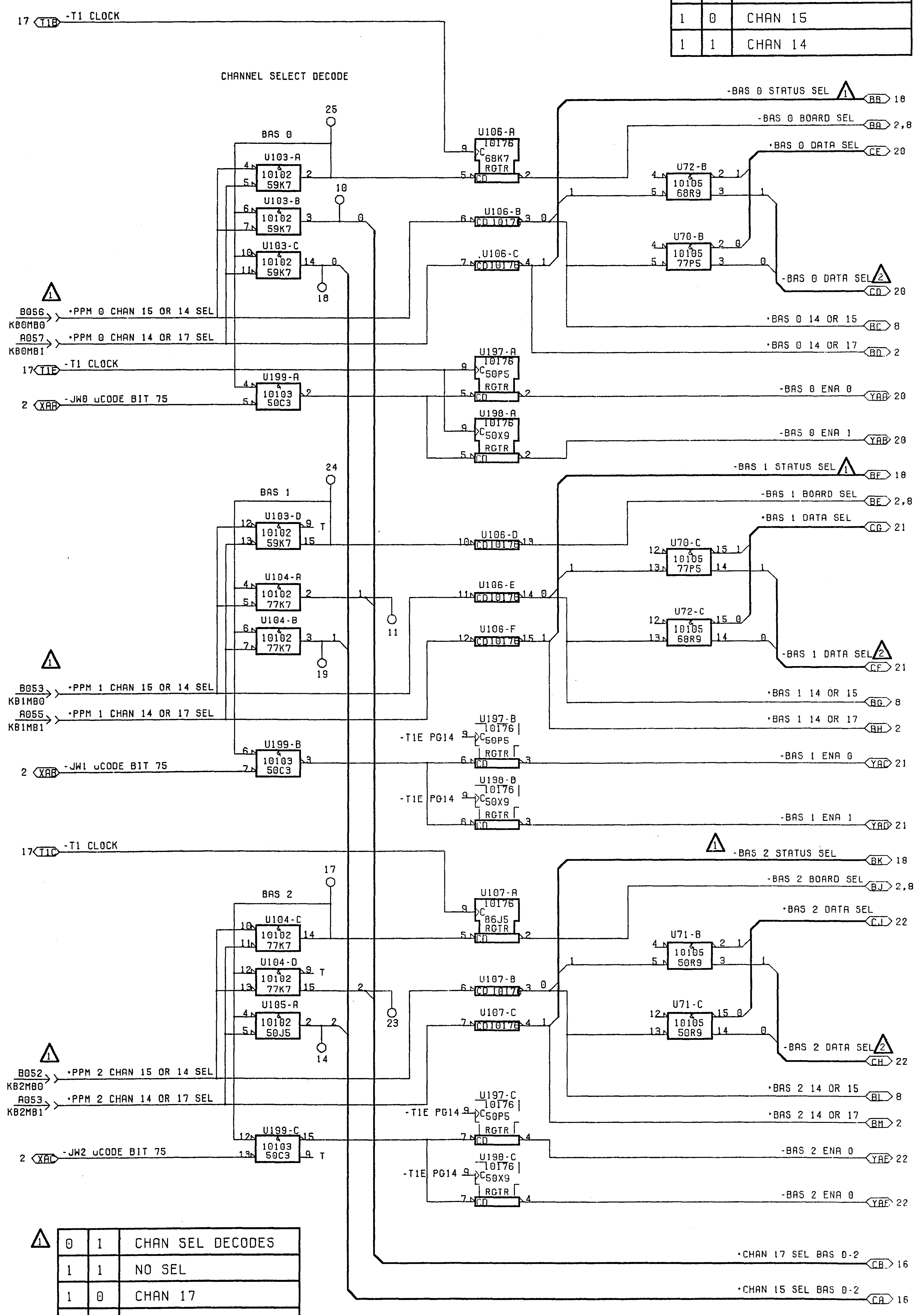
2 12 INCH MAXIMUM

3 ROUTE LINES TO 10160 1ST
10197 2ND
10174 3RD

CONTROL DATA	UTC BOARD CHAN 17 DATA HOLDING REG, OUTPUT DRIVERS AND PAR CHECK & REGEN TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		SHEET NO. 13	60462210	PAGE JM-13	

BAS 0-2· CHAN SEL DCDR

2			
	0	1	BAS SEL DECODES
	0	0	NO SEL
	0	1	CHAN 17
	1	0	CHAN 15
	1	1	CHAN 14

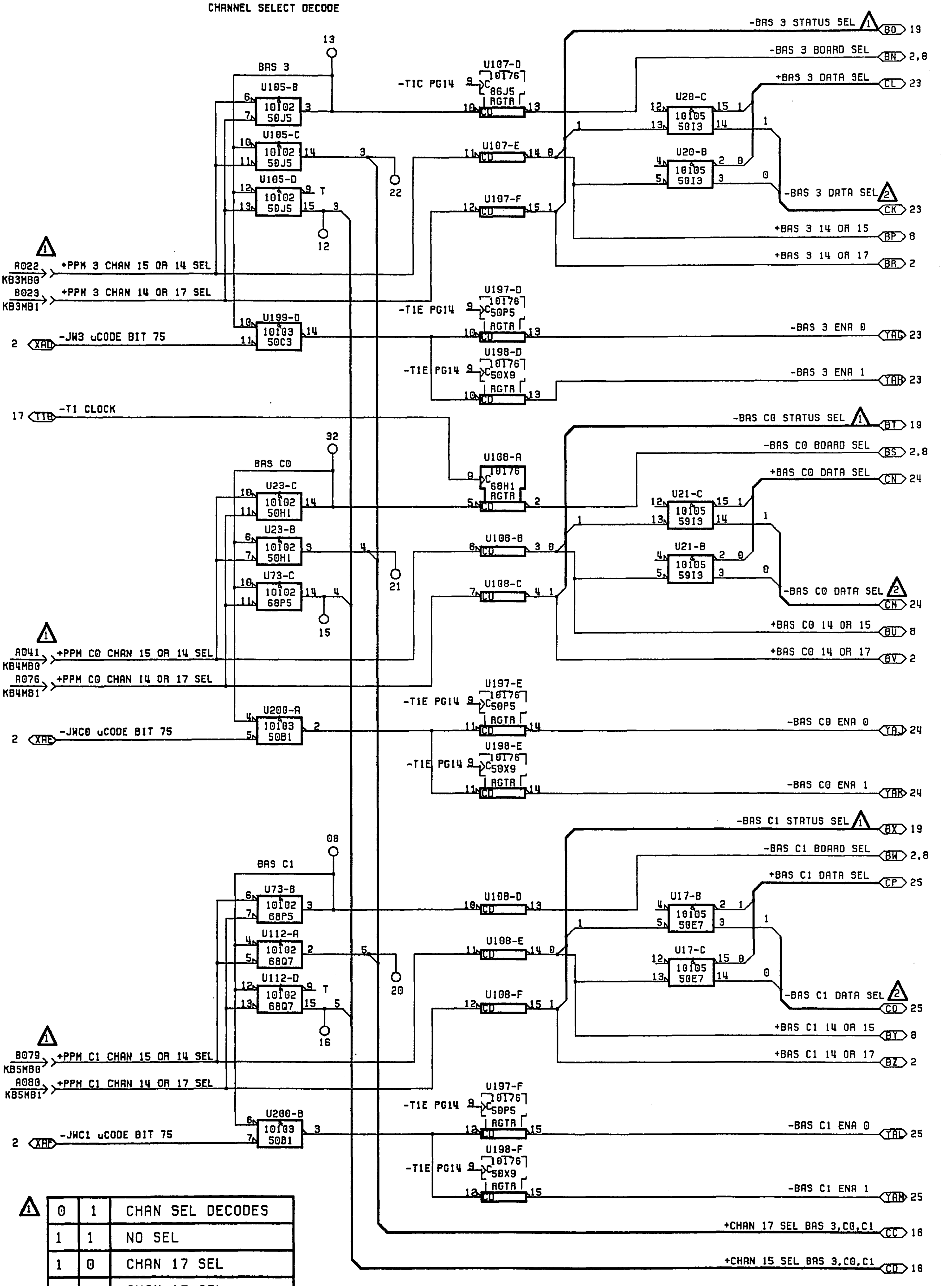


1			
	0	1	CHAN SEL DECODES
	1	1	NO SEL
	1	0	CHAN 17
	0	1	CHAN 15
	0	0	CHAN 14

CONTROL DATA	UTC BOARD BAS 0-2 CHAN SEL DECODE AND MUX SEL TYPE 1JMH	B	DWG NO. 53575511	DATE 06/14/88	REV D
	N	SHEET NO. 14	60462210	PAGE JM-14	

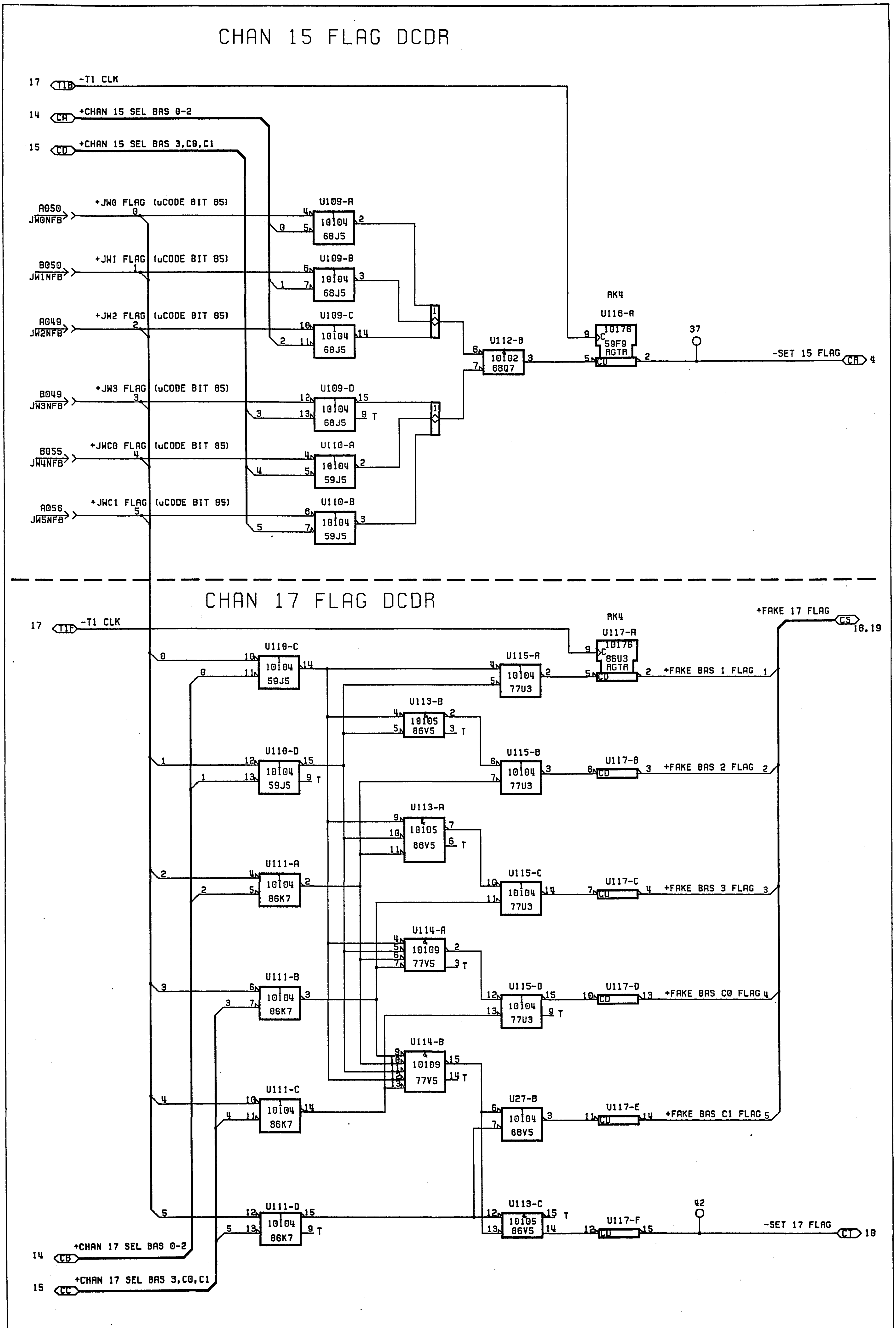
BAS 3,C0,C1 CHAN SEL DCDR

△2 0	1	BAS SEL DECODES
0	0	NO SEL
0	1	CHAN 17
1	0	CHAN 15
1	1	CHAN 14

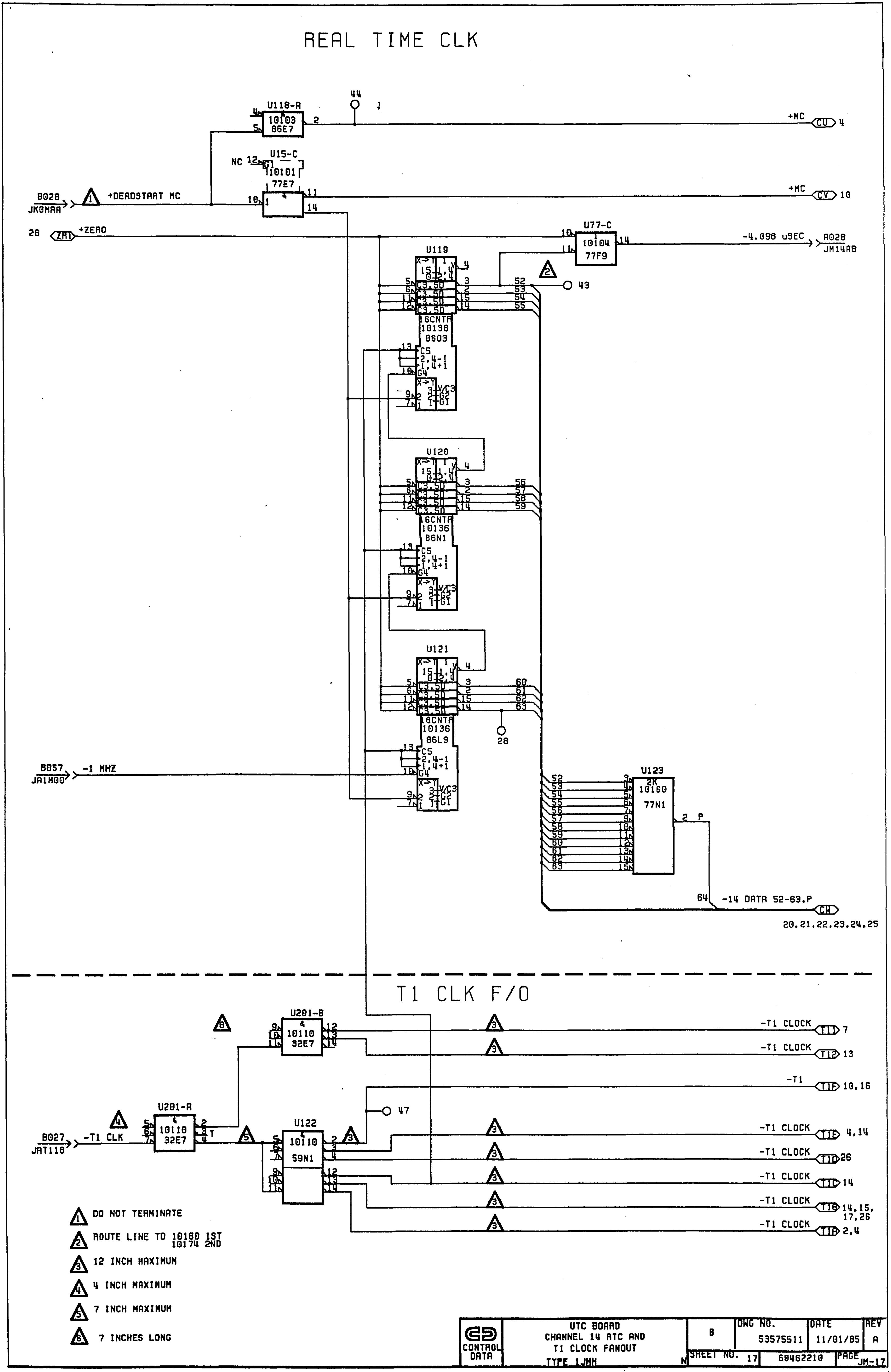


△1 0	1	CHAN SEL DECODES
1	1	NO SEL
1	0	CHAN 17 SEL
0	1	CHAN 15 SEL
0	0	CHAN 14 SEL

CONTROL DATA	UTC BOARD BAS 3,C0,C1 CHAN SEL DECODE AND MUX SEL TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
			SHEET NO. 15	60462210	PAGE JM-15



CONTROL DATA	UTC BOARD CHANNEL 15 AND CHANNEL 17 FLAG DECODE TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		SHEET NO. 16	60462210	PAGE JM-16	



1 DO NOT TERMINATE

2 ROUTE LINE TO 10160 1ST 10174 2ND

3 12 INCH MAXIMUM

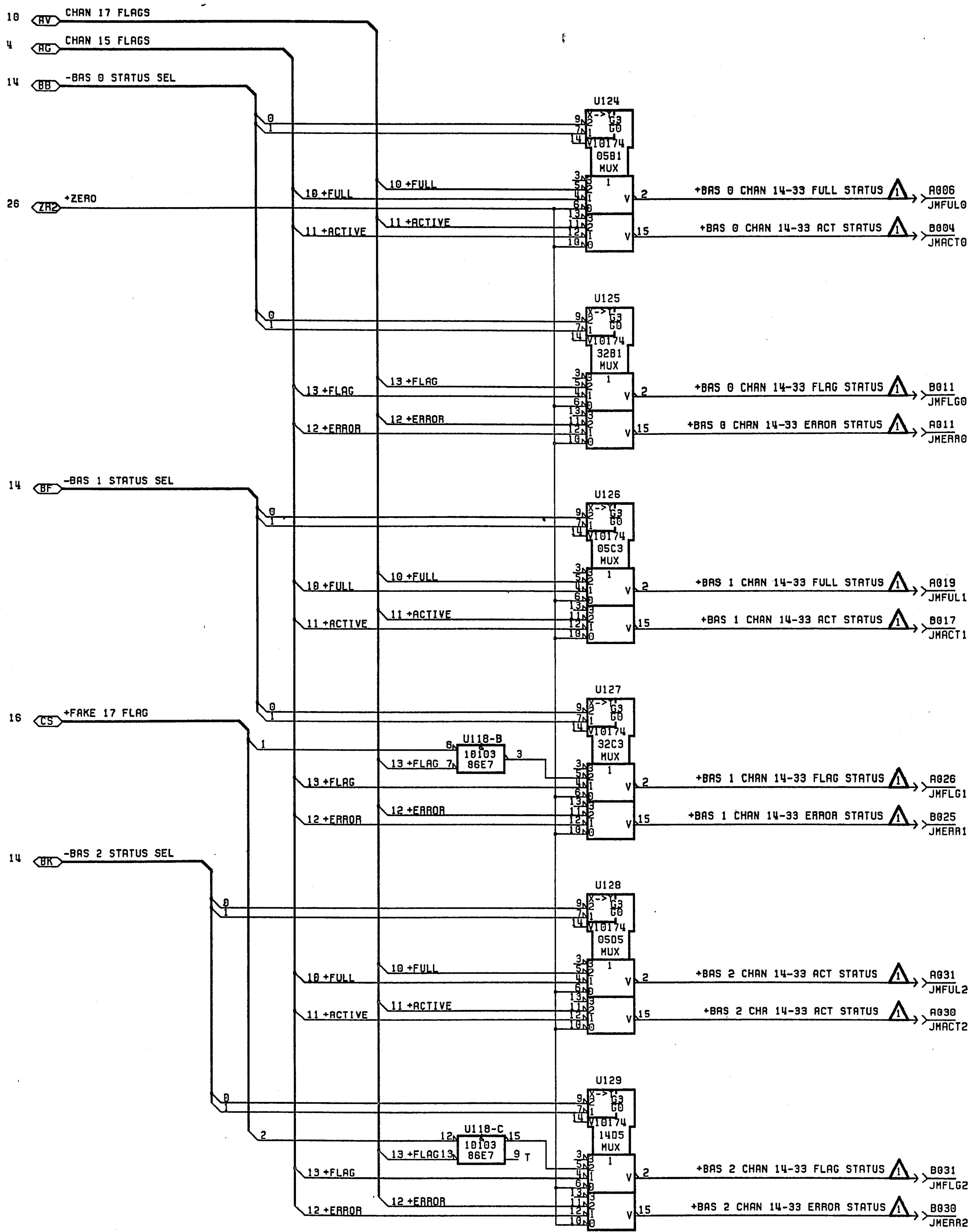
4 4 INCH MAXIMUM

5 7 INCH MAXIMUM

6 7 INCHES LONG

CONTROL DATA	UTC BOARD CHANNEL 14 RTC AND T1 CLOCK FANOUT TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		SHEET NO. 17	60462210	PAGE JM-17	

BAS 0-2 STATUS DRIVERS



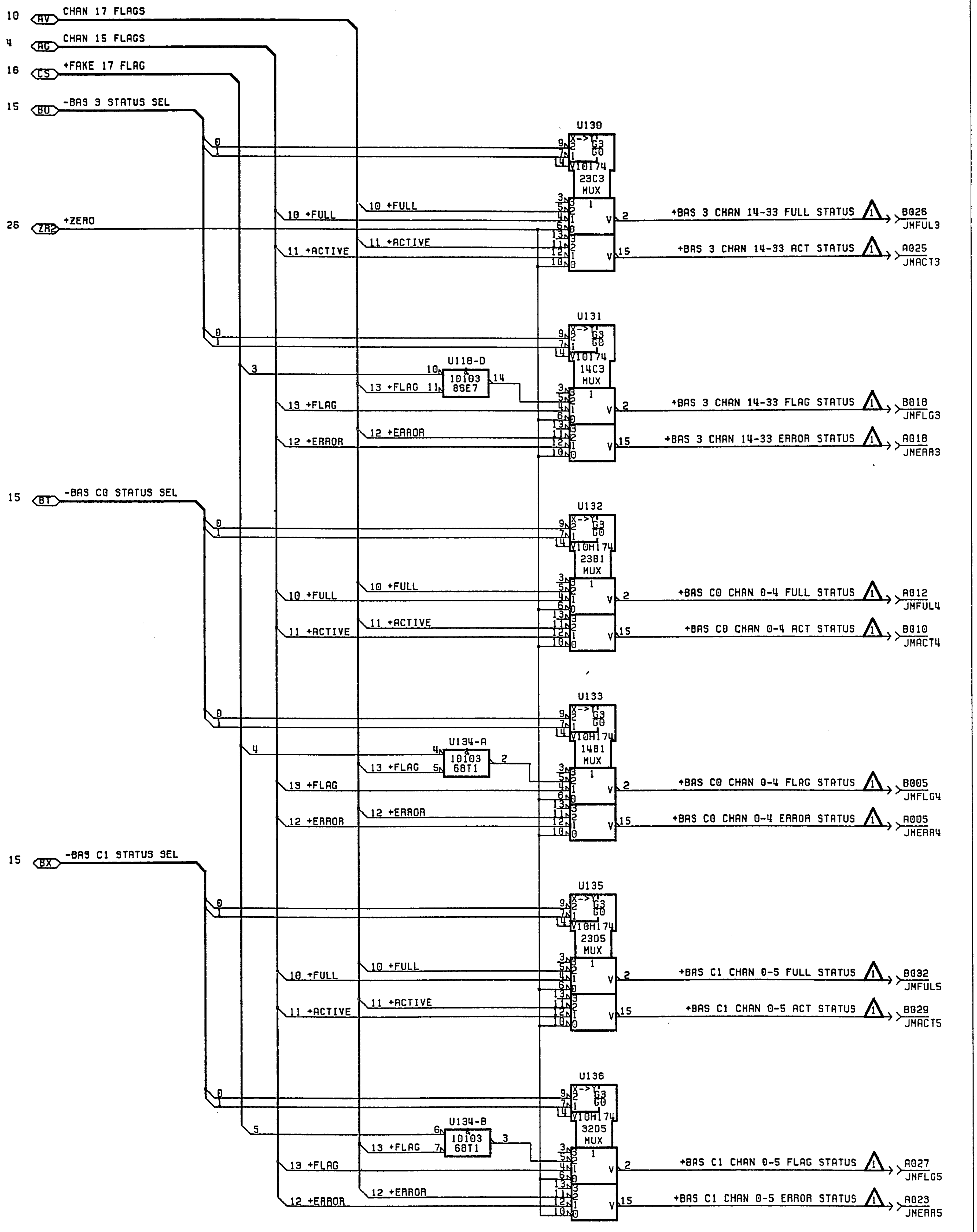
10 AV CHAN 17 FLAGS
4 AG CHAN 15 FLAGS
14 BB -BAS 0 STATUS SEL
26 ZH2 +ZERO
14 BF -BAS 1 STATUS SEL
16 CS +FAKE 17 FLAG
14 BK -BAS 2 STATUS SEL
U124 10174 05B1 MUX
U125 10174 32B1 MUX
U126 10174 05C3 MUX
U127 10174 32C3 MUX
U128 10174 05D5 MUX
U129 10174 14D5 MUX
U118-B 10103 86E7
U118-C 10103 86E7
10 +FULL
11 +ACTIVE
13 +FLAG
12 +ERROR
+BAS 0 CHAN 14-33 FULL STATUS A006 JMFUL0
+BAS 0 CHAN 14-33 ACT STATUS B004 JMACT0
+BAS 0 CHAN 14-33 FLAG STATUS B011 JMFLG0
+BAS 0 CHAN 14-33 ERROR STATUS A011 JMERR0
+BAS 1 CHAN 14-33 FULL STATUS A019 JMFUL1
+BAS 1 CHAN 14-33 ACT STATUS B017 JMACT1
+BAS 1 CHAN 14-33 FLAG STATUS A026 JMFLG1
+BAS 1 CHAN 14-33 ERROR STATUS B025 JMERR1
+BAS 2 CHAN 14-33 ACT STATUS A031 JMFUL2
+BAS 2 CHA 14-33 ACT STATUS A030 JMACT2
+BAS 2 CHAN 14-33 FLAG STATUS B031 JMFLG2
+BAS 2 CHAN 14-33 ERROR STATUS B030 JMERR2

BIT 0	BIT 1	STATUS MUX DECODES
1	1	NO SEL
1	0	CHAN 17
0	1	CHAN 15
0	0	CHAN 14

△1 MAXIMUM 9 INCHES AND TERMINATE AT FARTHEST POINT FROM CONN

CONTROL DATA	UTC BOARD BAS 0-2 STATUS DRIVERS TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
			SHEET NO. 18	60462210	PAGE JM-10

BAS 3,C0,C1 STATUS DRIVERS

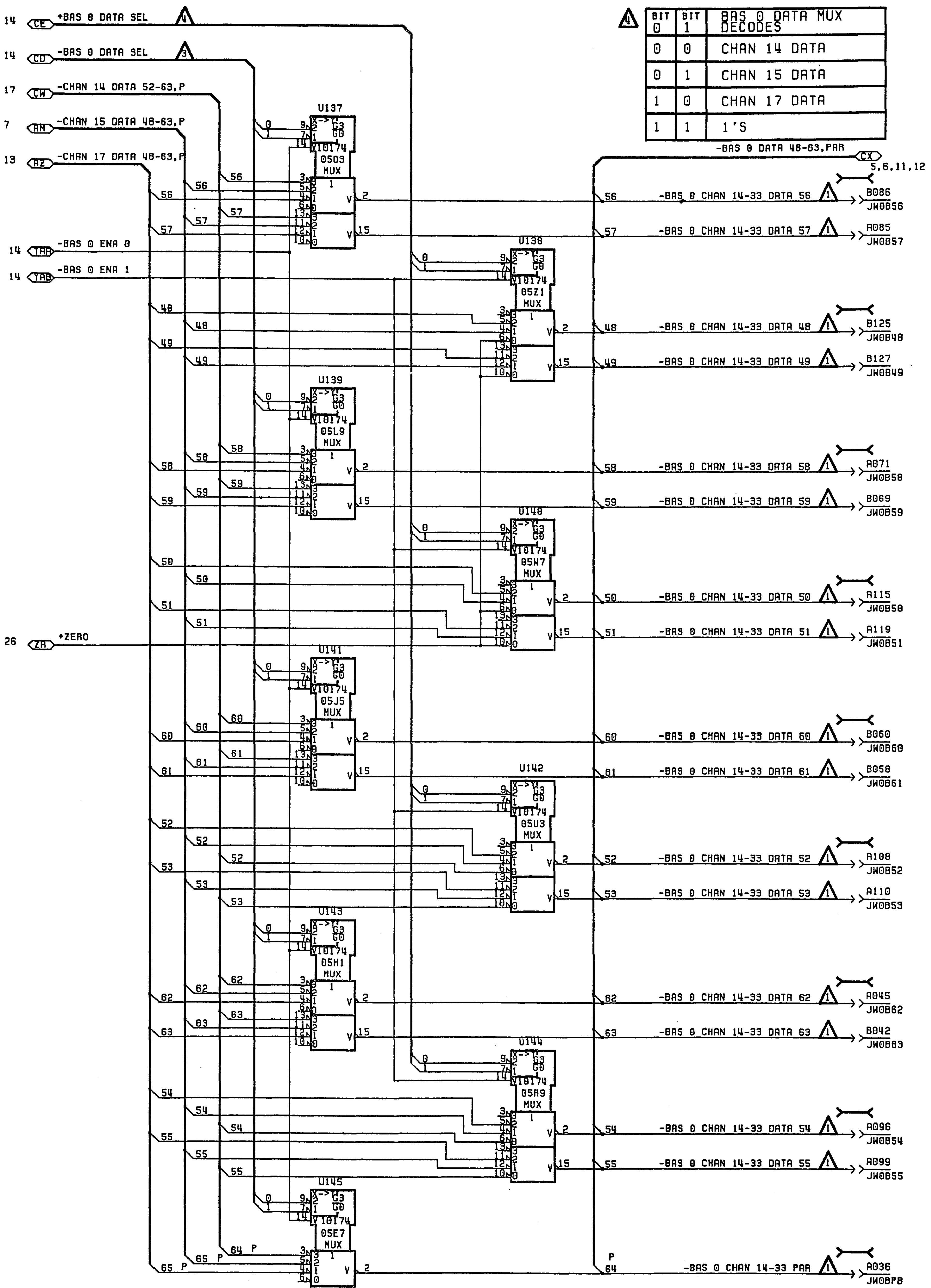

10 AV CHAN 17 FLAGS
4 AG CHAN 15 FLAGS
16 CS +FAKE 17 FLAG
15 BU -BAS 3 STATUS SEL
26 ZA2 +ZERO
15 BT -BAS C0 STATUS SEL
15 BX -BAS C1 STATUS SEL
U130 10174 23C3 MUX
U131 10174 14C3 MUX
U132 10H174 23B1 MUX
U133 10H174 14B1 MUX
U135 10H174 23D5 MUX
U136 10H174 32D5 MUX
U118-D 10103 86E7
U134-A 10103 68T1
U134-B 10103 68T1
10 +FULL
11 +ACTIVE
13 +FLAG
12 +ERROR
+BAS 3 CHAN 14-33 FULL STATUS B026 JMFUL3
+BAS 3 CHAN 14-33 ACT STATUS A025 JMACT3
+BAS 3 CHAN 14-33 FLAG STATUS B018 JMFLG3
+BAS 3 CHAN 14-33 ERROR STATUS A018 JMERR3
+BAS C0 CHAN 0-4 FULL STATUS A012 JMFUL4
+BAS C0 CHAN 0-4 ACT STATUS B010 JMACT4
+BAS C0 CHAN 0-4 FLAG STATUS B005 JMFLG4
+BAS C0 CHAN 0-4 ERROR STATUS A005 JMERR4
+BAS C1 CHAN 0-5 FULL STATUS B032 JMFUL5
+BAS C1 CHAN 0-5 ACT STATUS B029 JMACT5
+BAS C1 CHAN 0-5 FLAG STATUS A027 JMFLG5
+BAS C1 CHAN 0-5 ERROR STATUS A023 JMERR5

BIT 0	BIT 1	STATUS MUX DECODES
1	1	NO SEL
1	0	CHAN 17
0	1	CHAN 15
0	0	CHAN 14

△1 MAXIMUM 3 INCHES AND TERMINATE AT FARTHEST POINT FROM CONN

CONTROL DATA	UTC BOARD BAS 3,C0,C1 STATUS DRIVERS TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
			SHEET NO. 19	60462210	PAGE JM-19

BAS 0 DATA BUS DRIVERS


14 CE +BAS 0 DATA SEL 4
14 CD -BAS 0 DATA SEL 3
17 CW -CHAN 14 DATA 52-63,P
7 AM -CHAN 15 DATA 48-63,P
13 AZ -CHAN 17 DATA 48-63,P
14 YAA -BAS 0 ENA 0
14 YAB -BAS 0 ENA 1
26 ZA +ZERO
U137 10174 05O3 MUX
U138 10174 05Z1 MUX
U139 10174 05L9 MUX
U140 10174 05W7 MUX
U141 10174 05J5 MUX
U142 10174 05U3 MUX
U143 10174 05H1 MUX
U144 10174 05R9 MUX
U145 10174 05E7 MUX
-BAS 0 DATA 48-63,PAR CX 5,6,11,12
-BAS 0 CHAN 14-33 DATA 56 1 B086 JW0B56
-BAS 0 CHAN 14-33 DATA 57 1 A085 JW0B57
-BAS 0 CHAN 14-33 DATA 48 1 B125 JW0B48
-BAS 0 CHAN 14-33 DATA 49 1 B127 JW0B49
-BAS 0 CHAN 14-33 DATA 58 1 A071 JW0B58
-BAS 0 CHAN 14-33 DATA 59 1 B069 JW0B59
-BAS 0 CHAN 14-33 DATA 50 1 A115 JW0B50
-BAS 0 CHAN 14-33 DATA 51 1 A119 JW0B51
-BAS 0 CHAN 14-33 DATA 60 1 B060 JW0B60
-BAS 0 CHAN 14-33 DATA 61 1 B058 JW0B61
-BAS 0 CHAN 14-33 DATA 52 1 A108 JW0B52
-BAS 0 CHAN 14-33 DATA 53 1 A110 JW0B53
-BAS 0 CHAN 14-33 DATA 62 1 A045 JW0B62
-BAS 0 CHAN 14-33 DATA 63 1 B042 JW0B63
-BAS 0 CHAN 14-33 DATA 54 1 A096 JW0B54
-BAS 0 CHAN 14-33 DATA 55 1 A099 JW0B55
-BAS 0 CHAN 14-33 PAR 1 A036 JW0BP8
64 P
65 P

4

BIT 0	BIT 1	BAS 0 DATA MUX DECODES
0	0	CHAN 14 DATA
0	1	CHAN 15 DATA
1	0	CHAN 17 DATA
1	1	1'S

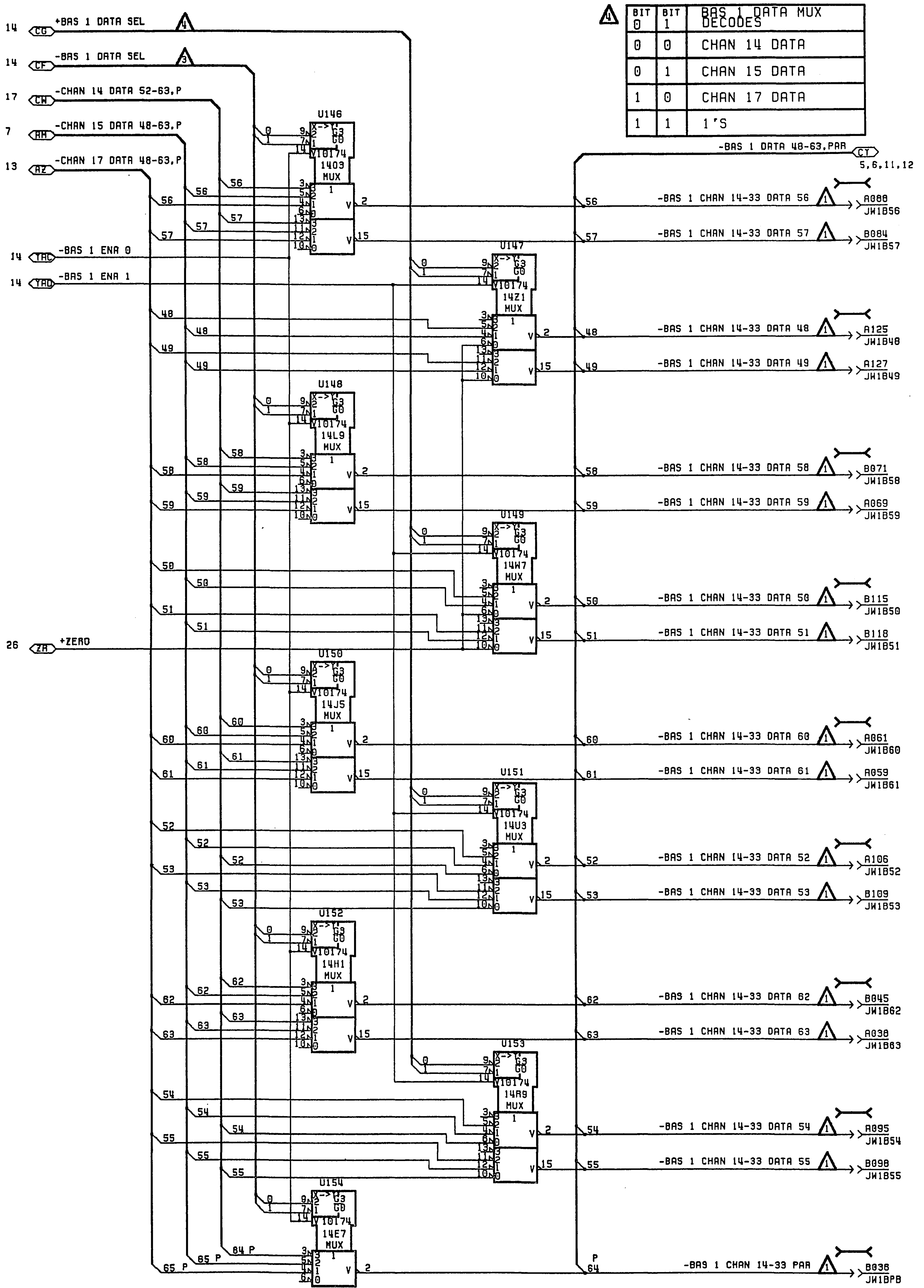
3

BIT 0	BIT 1	BAS 0 DATA MUX DECODES
0	0	1'S
0	1	CHAN 17 DATA
1	0	CHAN 15 DATA
1	1	CHAN 14 DATA

1 ROUTE LINE CONN 1ST
10174 2ND
10164 3RD
10164 4TH
TERM 5TH
KEEP DIST FROM CONN TO 10174 A MAX OF 3 INCHES.
TOTAL LENGTH OF NET IS A MAX OF 10 INCHES

CONTROL DATA	UTC BOARD BAS 0 DATA BUS DRIVERS TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		N	SHEET NO. 20	60462210	PAGE JM-20

BAS 1 DATA BUS DRIVERS



14 CG +BAS 1 DATA SEL 4
14 CF -BAS 1 DATA SEL 3
17 CW -CHAN 14 DATA 52-63,P
7 AM -CHAN 15 DATA 48-63,P
13 AZ -CHAN 17 DATA 48-63,P
14 TAD -BAS 1 ENA 0
14 YAD -BAS 1 ENA 1
26 ZA +ZERO
-BAS 1 DATA 48-63,PAR CT 5,6,11,12
U146 10174 14D3 MUX
U147 10174 14Z1 MUX
U148 10174 14L9 MUX
U149 10174 14W7 MUX
U150 10174 14J5 MUX
U151 10174 14U3 MUX
U152 10174 14H1 MUX
U153 10174 14A9 MUX
U154 10174 14E7 MUX
X->Y G3 G0
-BAS 1 CHAN 14-33 DATA 56 1 A088 JW1B56
-BAS 1 CHAN 14-33 DATA 57 1 B084 JW1B57
-BAS 1 CHAN 14-33 DATA 48 1 A125 JW1B48
-BAS 1 CHAN 14-33 DATA 49 1 A127 JW1B49
-BAS 1 CHAN 14-33 DATA 58 1 B071 JW1B58
-BAS 1 CHAN 14-33 DATA 59 1 A069 JW1B59
-BAS 1 CHAN 14-33 DATA 50 1 B115 JW1B50
-BAS 1 CHAN 14-33 DATA 51 1 B118 JW1B51
-BAS 1 CHAN 14-33 DATA 60 1 A061 JW1B60
-BAS 1 CHAN 14-33 DATA 61 1 A059 JW1B61
-BAS 1 CHAN 14-33 DATA 52 1 A106 JW1B52
-BAS 1 CHAN 14-33 DATA 53 1 B109 JW1B53
-BAS 1 CHAN 14-33 DATA 62 1 B045 JW1B62
-BAS 1 CHAN 14-33 DATA 63 1 A038 JW1B63
-BAS 1 CHAN 14-33 DATA 54 1 A095 JW1B54
-BAS 1 CHAN 14-33 DATA 55 1 B098 JW1B55
-BAS 1 CHAN 14-33 PAR 1 B036 JW1BP8
64 P
65 P

4

BIT 0	BIT 1	BAS 1 DATA MUX DECODES
0	0	CHAN 14 DATA
0	1	CHAN 15 DATA
1	0	CHAN 17 DATA
1	1	1'S

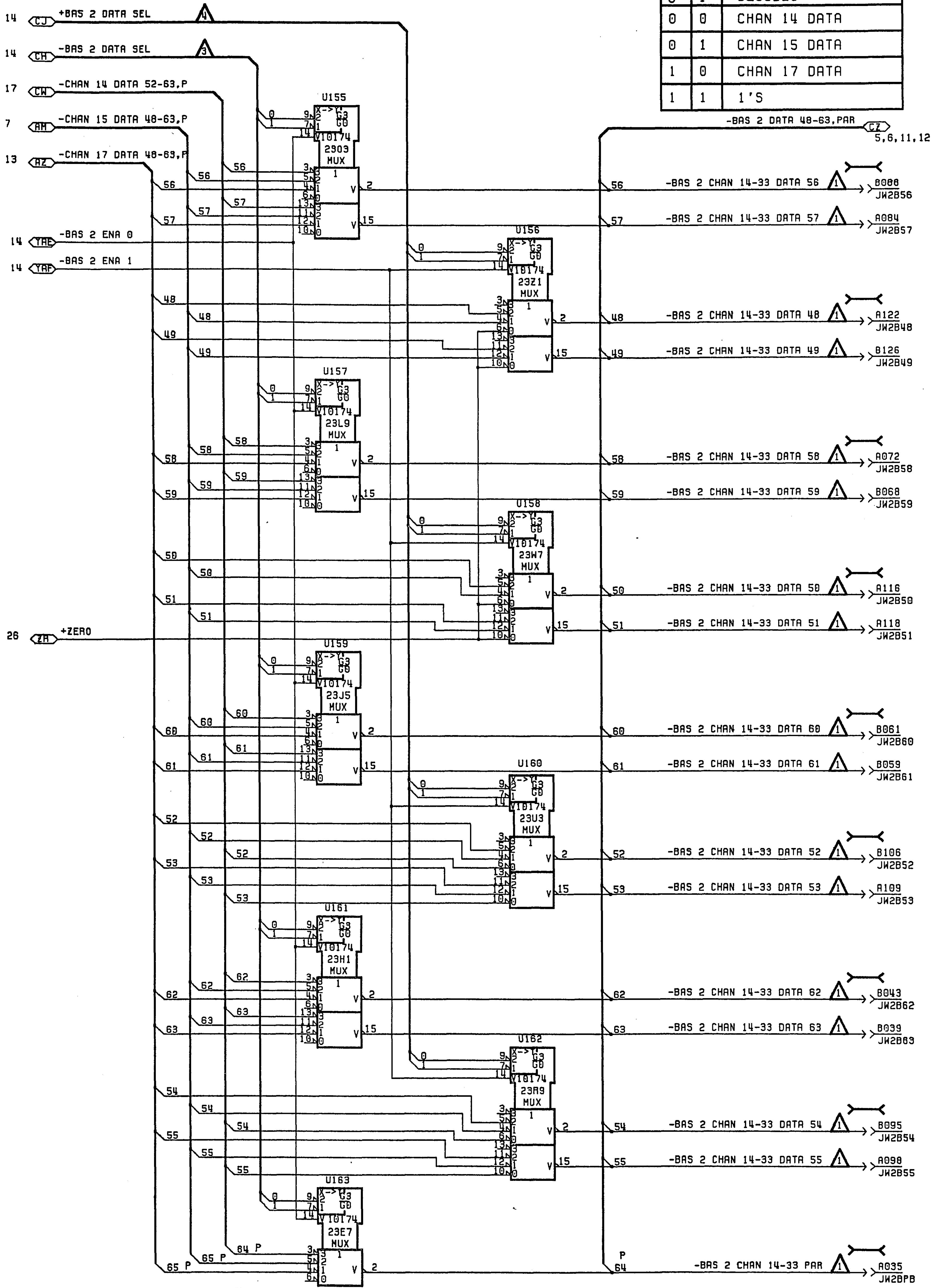
3

BIT 0	BIT 1	BAS 1 DATA MUX DECODES
0	0	1'S
0	1	CHAN 17 DATA
1	0	CHAN 15 DATA
1	1	CHAN 14 DATA

1 ROUTE LINE CONN 1ST
10174 2ND
10164 3RD
10164 4TH
TERM 5TH
KEEP DIST FROM CONN TO 10174 A MAX OF 3 INCHES
TOTAL LENGTH OF NET IS A MAX OF 10 INCHES

			DWG NO.	DATE	REV
CONTROL DATA	UTC BOARD BAS 1 DATA BUS DRIVERS TYPE 1JMH	B	53575511	11/01/85	A
		N	SHEET NO. 21	60462210	PAGE JM-21

BAS 2 DATA BUS DRIVERS


14 CJ +BAS 2 DATA SEL
14 CH -BAS 2 DATA SEL
17 CW -CHAN 14 DATA 52-63,P
7 AM -CHAN 15 DATA 48-63,P
13 AZ -CHAN 17 DATA 48-63,P
14 YAE -BAS 2 ENA 0
14 YAF -BAS 2 ENA 1
26 ZA +ZERO
-BAS 2 DATA 48-63,PAR CZ 5,6,11,12
U155 10174 23D3 MUX
U156 10174 23Z1 MUX
U157 10174 23L9 MUX
U158 10174 23W7 MUX
U159 10174 23J5 MUX
U160 10174 23U3 MUX
U161 10174 23H1 MUX
U162 10174 23A9 MUX
U163 10174 23E7 MUX
-BAS 2 CHAN 14-33 DATA 56 B088 JW2B56
-BAS 2 CHAN 14-33 DATA 57 A084 JW2B57
-BAS 2 CHAN 14-33 DATA 48 A122 JW2B48
-BAS 2 CHAN 14-33 DATA 49 B126 JW2B49
-BAS 2 CHAN 14-33 DATA 58 A072 JW2B58
-BAS 2 CHAN 14-33 DATA 59 B068 JW2B59
-BAS 2 CHAN 14-33 DATA 50 A116 JW2B50
-BAS 2 CHAN 14-33 DATA 51 A118 JW2B51
-BAS 2 CHAN 14-33 DATA 60 B061 JW2B60
-BAS 2 CHAN 14-33 DATA 61 B059 JW2B61
-BAS 2 CHAN 14-33 DATA 52 B106 JW2B52
-BAS 2 CHAN 14-33 DATA 53 A109 JW2B53
-BAS 2 CHAN 14-33 DATA 62 B043 JW2B62
-BAS 2 CHAN 14-33 DATA 63 B039 JW2B63
-BAS 2 CHAN 14-33 DATA 54 B095 JW2B54
-BAS 2 CHAN 14-33 DATA 55 A098 JW2B55
-BAS 2 CHAN 14-33 PAR A035 JW2BPB

4

BIT 0	BIT 1	BAS 2 DATA MUX DECODES
0	0	CHAN 14 DATA
0	1	CHAN 15 DATA
1	0	CHAN 17 DATA
1	1	1'S

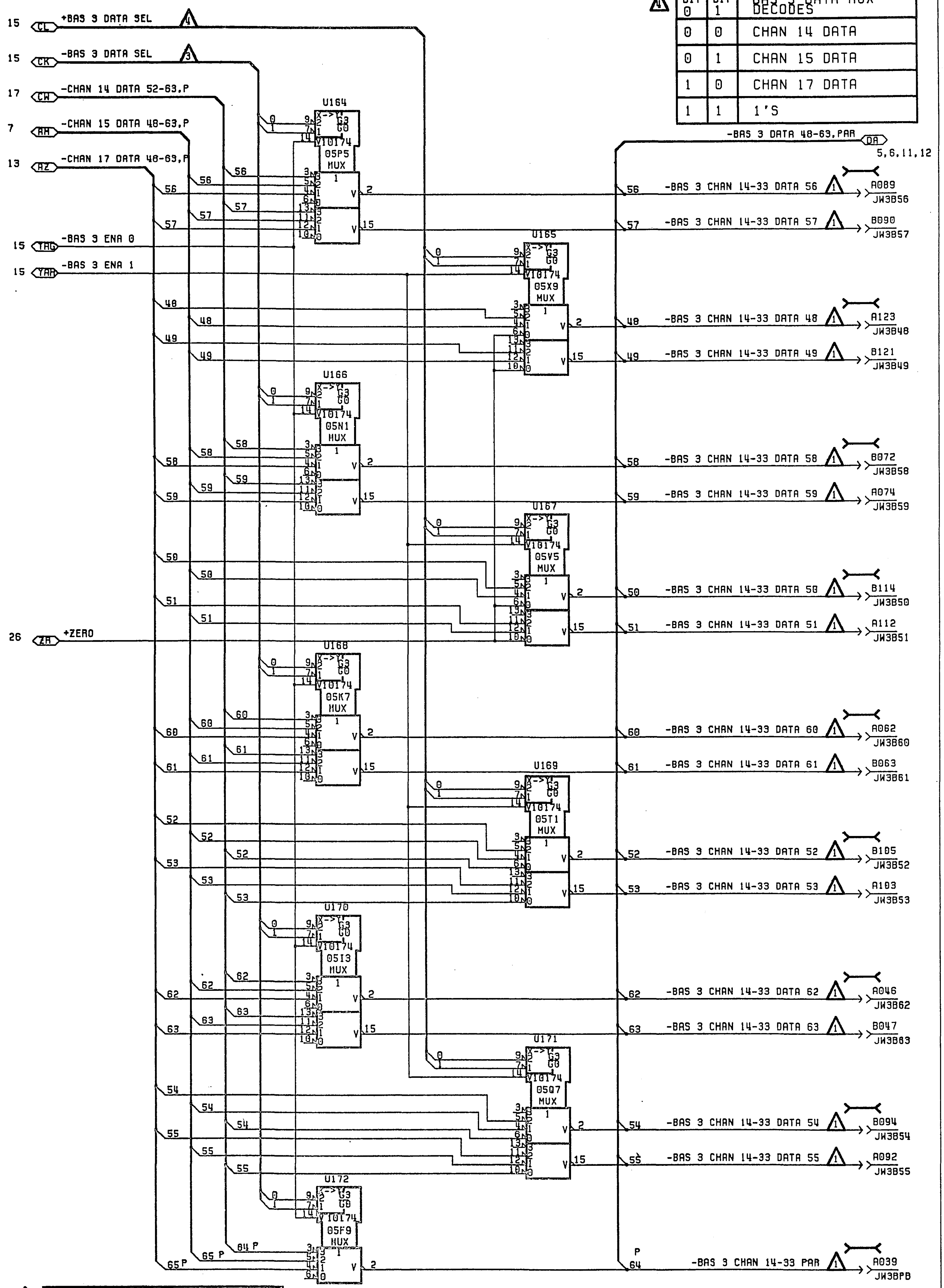
3

BIT 0	BIT 1	BAS 2 DATA MUX DECODES
0	0	1'S
0	1	CHAN 17 DATA
1	0	CHAN 15 DATA
1	1	CHAN 14 DATA

1 ROUTE LINE CONN 1ST
10174 2ND
10164 3RD
10164 4TH
TERM 5TH
KEEP DIST FROM CONN TO 10174 A MAX OF 3 INCHES
TOTAL LENGTH OF NET IS A MAX OF 10 INCHES

CONTROL DATA	UTC BOARD BAS 2 DATA BUS DRIVERS TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		N	SHEET NO. 22	60462210	PAGE JM-22

BAS 3 DATA BUS DRIVERS



15 CL +BAS 3 DATA SEL 4
15 CK -BAS 3 DATA SEL 3
17 CW -CHAN 14 DATA 52-63,P
7 AM -CHAN 15 DATA 48-63,P
13 AZ -CHAN 17 DATA 48-63,P
15 TAG -BAS 3 ENA 0
15 YAH -BAS 3 ENA 1
26 ZA +ZERO
U164 10174 05P5 MUX
U165 10174 05X9 MUX
U166 10174 05N1 MUX
U167 10174 05V5 MUX
U168 10174 05K7 MUX
U169 10174 05T1 MUX
U170 10174 05I3 MUX
U171 10174 05Q7 MUX
U172 10174 05F9 MUX
-BAS 3 DATA 48-63,PAR DA 5,6,11,12
-BAS 3 CHAN 14-33 DATA 56 A089 JM3B56
-BAS 3 CHAN 14-33 DATA 57 B090 JM3B57
-BAS 3 CHAN 14-33 DATA 48 A123 JM3B48
-BAS 3 CHAN 14-33 DATA 49 B121 JM3B49
-BAS 3 CHAN 14-33 DATA 58 B072 JM3B58
-BAS 3 CHAN 14-33 DATA 59 A074 JM3B59
-BAS 3 CHAN 14-33 DATA 50 B114 JM3B50
-BAS 3 CHAN 14-33 DATA 51 A112 JM3B51
-BAS 3 CHAN 14-33 DATA 60 A062 JM3B60
-BAS 3 CHAN 14-33 DATA 61 B063 JM3B61
-BAS 3 CHAN 14-33 DATA 52 B105 JM3B52
-BAS 3 CHAN 14-33 DATA 53 A103 JM3B53
-BAS 3 CHAN 14-33 DATA 62 A046 JM3B62
-BAS 3 CHAN 14-33 DATA 63 B047 JM3B63
-BAS 3 CHAN 14-33 DATA 54 B094 JM3B54
-BAS 3 CHAN 14-33 DATA 55 A092 JM3B55
-BAS 3 CHAN 14-33 PAR A039 JM3BPB

4

BIT 0	BIT 1	BAS 3 DATA MUX DECODES
0	0	CHAN 14 DATA
0	1	CHAN 15 DATA
1	0	CHAN 17 DATA
1	1	1'S

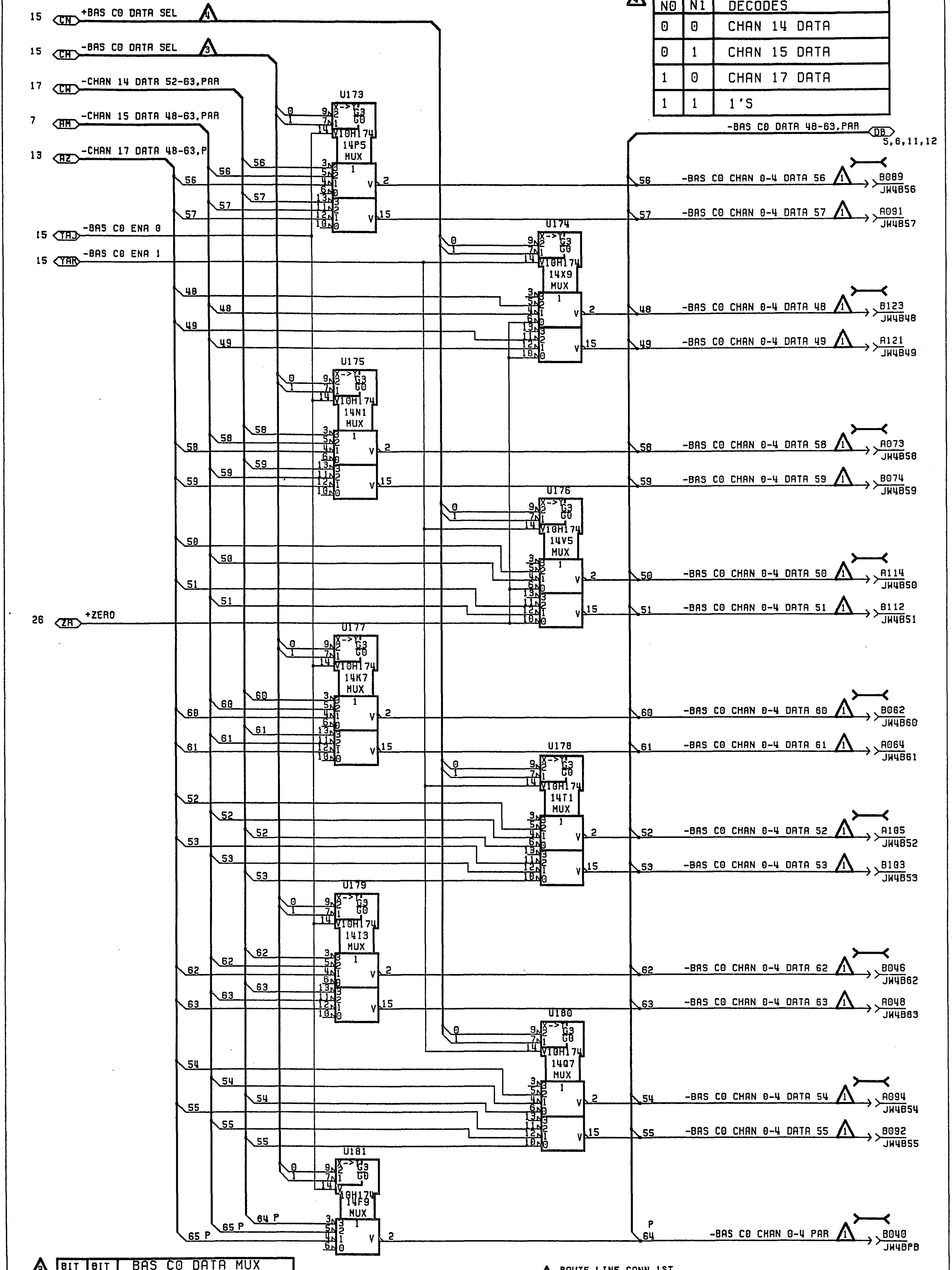
3

BIT 0	BIT 1	BAS 3 DATA MUX DECODES
0	0	1'S
0	1	CHAN 17 DATA
1	0	CHAN 15 DATA
1	1	CHAN 14 DATA

1 ROUTE LINE CONN 1ST
10174 2ND
10164 3RD
10164 4TH
TERM 5TH
KEEP DIST FROM CONN TO 10174 A MAX OF 3 INCHES
TOTAL LENGTH OF NET IS A MAX OF 10 INCHES

CONTROL DATA	UTC BOARD BAS 3 DATA BUS DRIVERS TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		N	SHEET NO. 23	60462210	PAGE JM-29

BAS C0 DATA BUS DRIVERS


15 CN +BAS C0 DATA SEL
15 CM -BAS C0 DATA SEL
17 CW -CHAN 14 DATA 52-63,PAR
7 AM -CHAN 15 DATA 48-63,PAR
13 AZ -CHAN 17 DATA 48-63,P
15 TAJ -BAS C0 ENA 0
15 YAK -BAS C0 ENA 1
26 ZA +ZERO
U173 14P5 MUX
U174 14X9 MUX
U175 14N1 MUX
U176 14V5 MUX
U177 14K7 MUX
U178 14T1 MUX
U179 14I3 MUX
U180 14Q7 MUX
U181 14F9 MUX
10H174
-BAS C0 DATA 48-63,PAR DB 5,6,11,12
-BAS C0 CHAN 0-4 DATA 56 B089 JW4B56
-BAS C0 CHAN 0-4 DATA 57 A091 JW4B57
-BAS C0 CHAN 0-4 DATA 48 B123 JW4B48
-BAS C0 CHAN 0-4 DATA 49 A121 JW4B49
-BAS C0 CHAN 0-4 DATA 58 A073 JW4B58
-BAS C0 CHAN 0-4 DATA 59 B074 JW4B59
-BAS C0 CHAN 0-4 DATA 50 A114 JW4B50
-BAS C0 CHAN 0-4 DATA 51 B112 JW4B51
-BAS C0 CHAN 0-4 DATA 60 B062 JW4B60
-BAS C0 CHAN 0-4 DATA 61 A064 JW4B61
-BAS C0 CHAN 0-4 DATA 52 A105 JW4B52
-BAS C0 CHAN 0-4 DATA 53 B103 JW4B53
-BAS C0 CHAN 0-4 DATA 62 B046 JW4B62
-BAS C0 CHAN 0-4 DATA 63 A048 JW4B63
-BAS C0 CHAN 0-4 DATA 54 A094 JW4B54
-BAS C0 CHAN 0-4 DATA 55 B092 JW4B55
-BAS C0 CHAN 0-4 PAR B040 JW4BPB
65 P
64 P
P 64

4

BIT N0	BIT N1	BAS C0 DATA MUX DECODES
0	0	CHAN 14 DATA
0	1	CHAN 15 DATA
1	0	CHAN 17 DATA
1	1	1'S

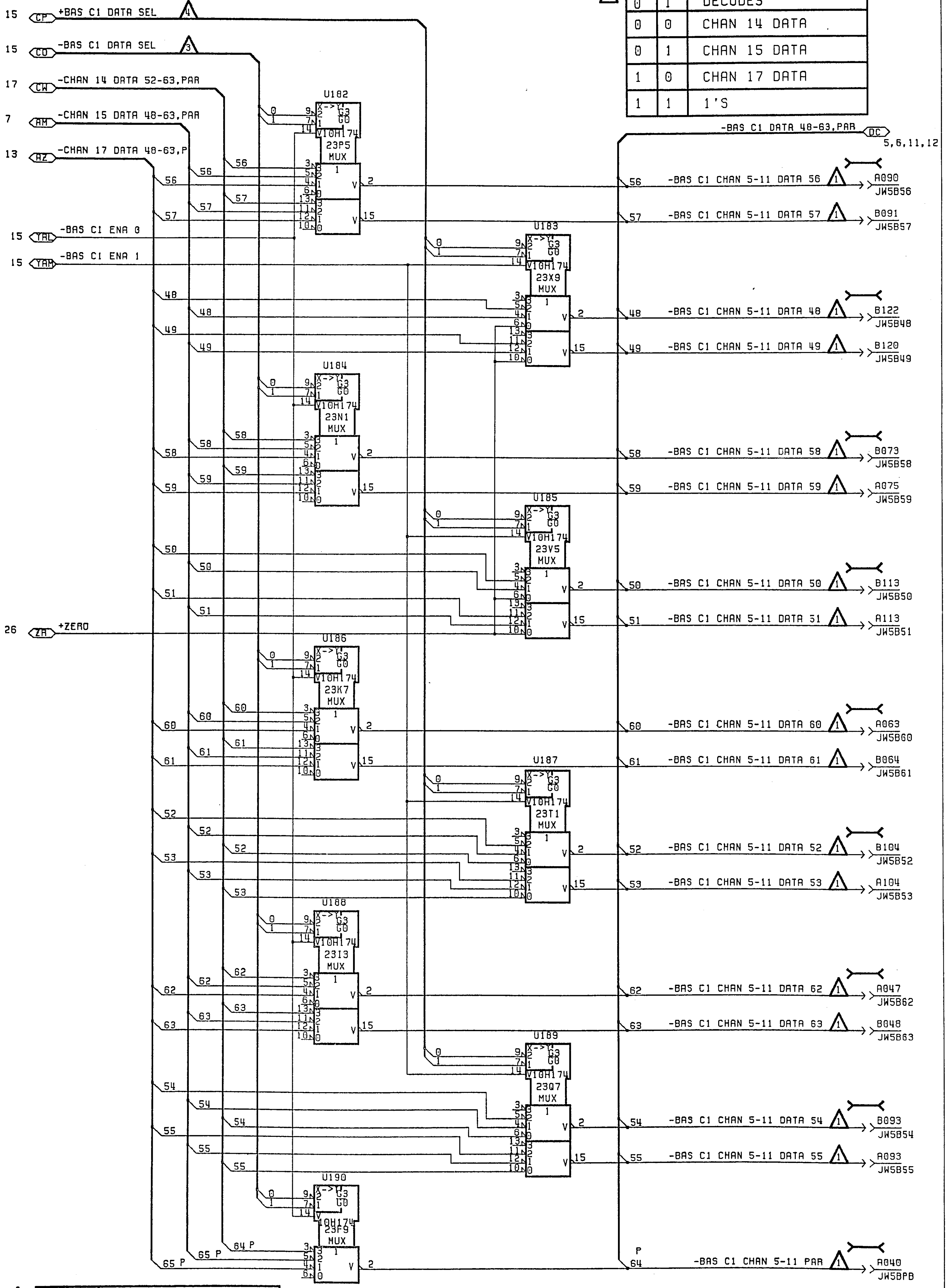
3

BIT 0	BIT 1	BAS C0 DATA MUX DECODES
0	0	1'S
0	1	CHAN 17 DATA
1	0	CHAN 15 DATA
1	1	CHAN 14 DATA

1 ROUTE LINE CONN 1ST
10174 2ND
10164 3RD
10164 4TH
TERM 5TH
KEEP DIST FROM CONN TO 10174 A MAX OF 3 INCHES
TOTAL LENGTH OF NET IS A MAX OF 10 INCHES

CONTROL DATA	UTC BOARD BAS C0 DATA BUS DRIVERS TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		N	SHEET NO. 24	60462210	PAGE JM-24

BAS C1 DATA BUS DRIVERS


15 CF +BAS C1 DATA SEL 4
15 CD -BAS C1 DATA SEL 3
17 CW -CHAN 14 DATA 52-63,PAR
7 AM -CHAN 15 DATA 48-63,PAR
13 AZ -CHAN 17 DATA 48-63,P
15 YAL -BAS C1 ENA 0
15 YAM -BAS C1 ENA 1
26 ZA +ZERO
U182 10H174 23P5 MUX
U183 10H174 23X9 MUX
U184 10H174 23N1 MUX
U185 10H174 23V5 MUX
U186 10H174 23K7 MUX
U187 10H174 23T1 MUX
U188 10H174 23I3 MUX
U189 10H174 23Q7 MUX
U190 10H174 23F9 MUX
-BAS C1 DATA 48-63,PAR DC 5,6,11,12
-BAS C1 CHAN 5-11 DATA 56 A090 JW5B56
-BAS C1 CHAN 5-11 DATA 57 B091 JW5B57
-BAS C1 CHAN 5-11 DATA 48 B122 JW5B48
-BAS C1 CHAN 5-11 DATA 49 B120 JW5B49
-BAS C1 CHAN 5-11 DATA 58 B073 JW5B58
-BAS C1 CHAN 5-11 DATA 59 A075 JW5B59
-BAS C1 CHAN 5-11 DATA 50 B113 JW5B50
-BAS C1 CHAN 5-11 DATA 51 A113 JW5B51
-BAS C1 CHAN 5-11 DATA 60 A063 JW5B60
-BAS C1 CHAN 5-11 DATA 61 B064 JW5B61
-BAS C1 CHAN 5-11 DATA 52 B104 JW5B52
-BAS C1 CHAN 5-11 DATA 53 A104 JW5B53
-BAS C1 CHAN 5-11 DATA 62 A047 JW5B62
-BAS C1 CHAN 5-11 DATA 63 B048 JW5B63
-BAS C1 CHAN 5-11 DATA 54 B093 JW5B54
-BAS C1 CHAN 5-11 DATA 55 A093 JW5B55
-BAS C1 CHAN 5-11 PAR A040 JW5BPB
64 P
65 P

4

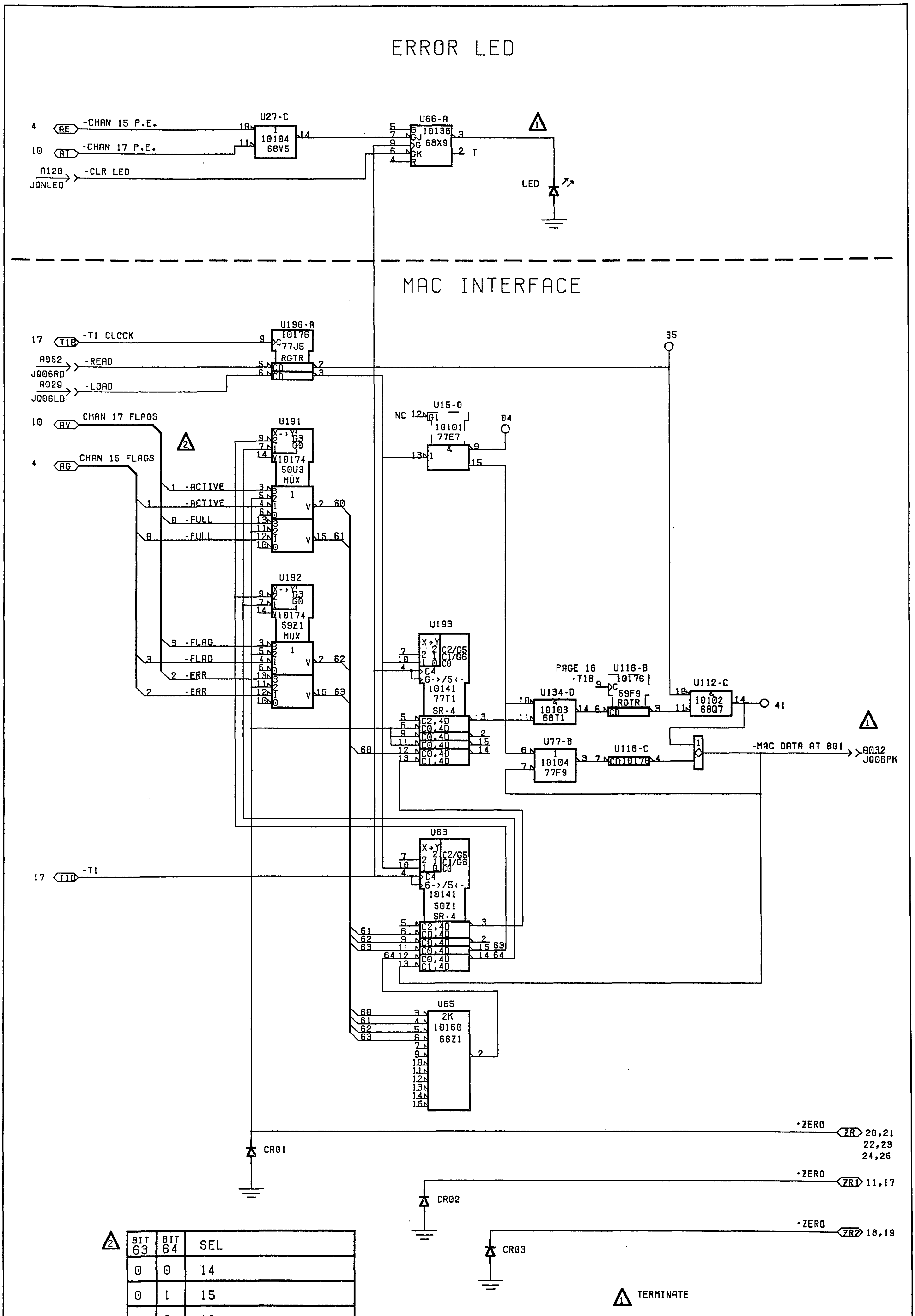
BIT 0	BIT 1	BAS C1 DATA MUX DECODES
0	0	CHAN 14 DATA
0	1	CHAN 15 DATA
1	0	CHAN 17 DATA
1	1	1'S

3

BIT 0	BIT 1	BAS C1 DATA MUX DECODES
0	0	1'S
0	1	CHAN 17 DATA
1	0	CHAN 15 DATA
1	1	CHAN 14 DATA

1 ROUTE LINE CONN 1ST
10174 2ND
10164 3RD
10164 4TH
TERM 5TH
KEEP DIST FROM CONN TO 10174 A MAX OF 3 INCHES
TOTAL LENGTH OF NET IS A MAX OF 10 INCHES

CONTROL DATA	UTC BOARD BAS C1 DATA BUS DRIVERS TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
		N	SHEET NO. 25	60462210	PAGE JM-25



2

BIT 63	BIT 64	SEL
0	0	14
0	1	15
1	0	16
1	1	17

1 TERMINATE

CONTROL DATA	UTC BOARD MAC INTERFACE AND ERROR LED TYPE 1JMH	B	DWG NO. 53575511	DATE 08/24/87	REV C
		SHEET NO. 26	60462210	PAGE JM-26	

TESTPOINTS

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	04	+CHAN 15 FLAG	27		
02	10	+CHAN 17 ERROR	28	17	-RTC BIT 63
03	04	+CHAN 15 ACTIVE	29	07	+CHAN 15 DATA STROBE
04	26	-MAC LOAD	30	13	+CHAN 17 P.E.
05	10	+CHAN 17 FLAG	31	10	+CLR CHAN 17 FULL
06	15	-BAS C1 BOARD SEL	32	15	-BAS C0 BOARD SEL
07	10	+CHAN 17 ACTIVE	33	04	+CLR CHAN 15 FULL
08	04	+CHAN 15 FULL	34		
09	04	+SET CHAN 15 FULL	35	26	-MAC READ
10	14	+CHAN 17 SEL BAS 0	36	10	+CHAN 17 FULL
11	14	+CHAN 17 SEL BAS 1	37	16	-SET 15 FLAG
12	15	+CHAN 15 SEL BAS 3	38	10	-CLR CHAN 17 ACT
13	15	-BAS 3 BOARD SEL	39	10	-SET CHAN 17 ACT
14	04	+CHAN 15 FLAG	40	10	+SET CHAN 17 FULL
15	15	+CHAN 15 SEL BAS C0	41	26	+MAC SER READ DATA
16	15	+CHAN 15 SEL BAS C1	42	16	-SET CHAN 17 FLAG
17	14	-BAS 2 BOARD SEL	43	17	-RTC BIT 52
18	14	+CHAN 15 SEL BAS 0	44	17	+MC
19	14	+CHAN 15 SEL BAS 1	45	04	-CLR CHAN 15 ACT
20	15	+CHAN 17 SEL BAS C1	46		
21	15	+CHAN 17 SEL BAS C0	47	17	-T1 CLK
22	15	+CHAN 17 SEL BAS 3	48	13	-CHAN 17 DATA STROBE
23	14	+CHAN 17 SEL BAS 2	49	04	+CHAN 15 ERROR
24	14	-BAS 1 BOARD SEL	50	13	-CHAN 17 BIT 48
25	14	-BAS 0 BOARD SEL	51	07	-CHAN 15 BIT 48
26	07	+CHAN 15 P.E.			

CONNECTOR PINS

GND	A014,B014,A024,B024,A034,B034,A054,B054,A065,B065,A066,B066,A077,B077,A097,B097,A107,B107,A117,B117
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	NOT USED ON THIS PAK
TERM	NONE
UNUSED	B128

CONTROL DATA	UTC BOARD TESTPOINTS & SIGNAL NAMES AND CONNECTOR PINS TYPE 1JMH	B	DWG NO. 53575511	DATE 11/01/85	REV A
	N	SHEET NO. 27	60462210	PAGE JM-27	

CAUTION

There are two sets of logic diagrams for this board. Each set supports a different board version. The appropriate logic diagram set for your board has a board master (B/M) number that matches the printed wiring board (PWB) number of the board. The B/M number is located in the upper right corner of the diagram set cover page (sheet 1), and the PWB number is located on the back of the board.

1JWH uCODE BOARD

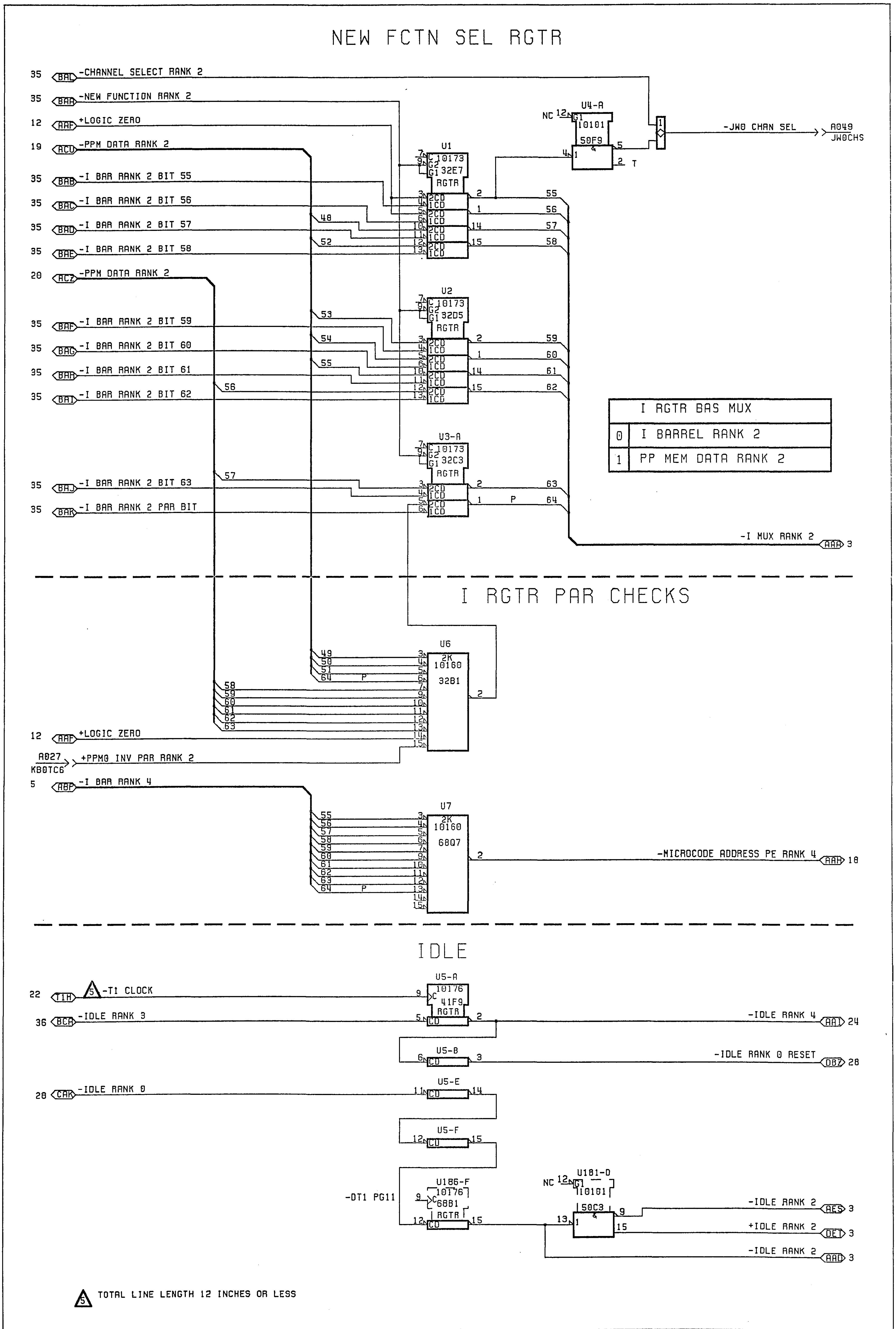
REVISION HISTORY B/M 41654100			
DATE	REV	DESCRIPTION OF CHANGE	INIT
11/01/85	A	CLASS A RELEASE OF LOGIC DIAGRAMS WITH	
		ECO #46886 & #47428 INSTALLED.	DRF
01/15/86	B	ECO #47435 PG'S 3,11,14,17 & 22	LHJ
04/09/86	C	ECO #47450 PG'S 2,4,11,15,17,22,31 & 40	LHJ
06/04/86	D	ECO #47741 DIAGRAM CORRECTIONS TO PG'S	
		3,14,16,18,22,23,30,34 & 35	LHJ
01/12/87	E	ECO #48330 PAGE 17	
01/21/88	F	ECO #49505 DIAGRAM CORRECTIONS	
		TO SHEETS 3 & 22	DS

DWN	L H JOHNSON	11/01/85
CHKD	D R FORD	12/04/85
ENG	D R FORD	12/04/85
PUBS	R K BONDE	12/04/85
APP	D R FORD	12/04/85

NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

LOC: B14,B12,B10,B08,D24,C24

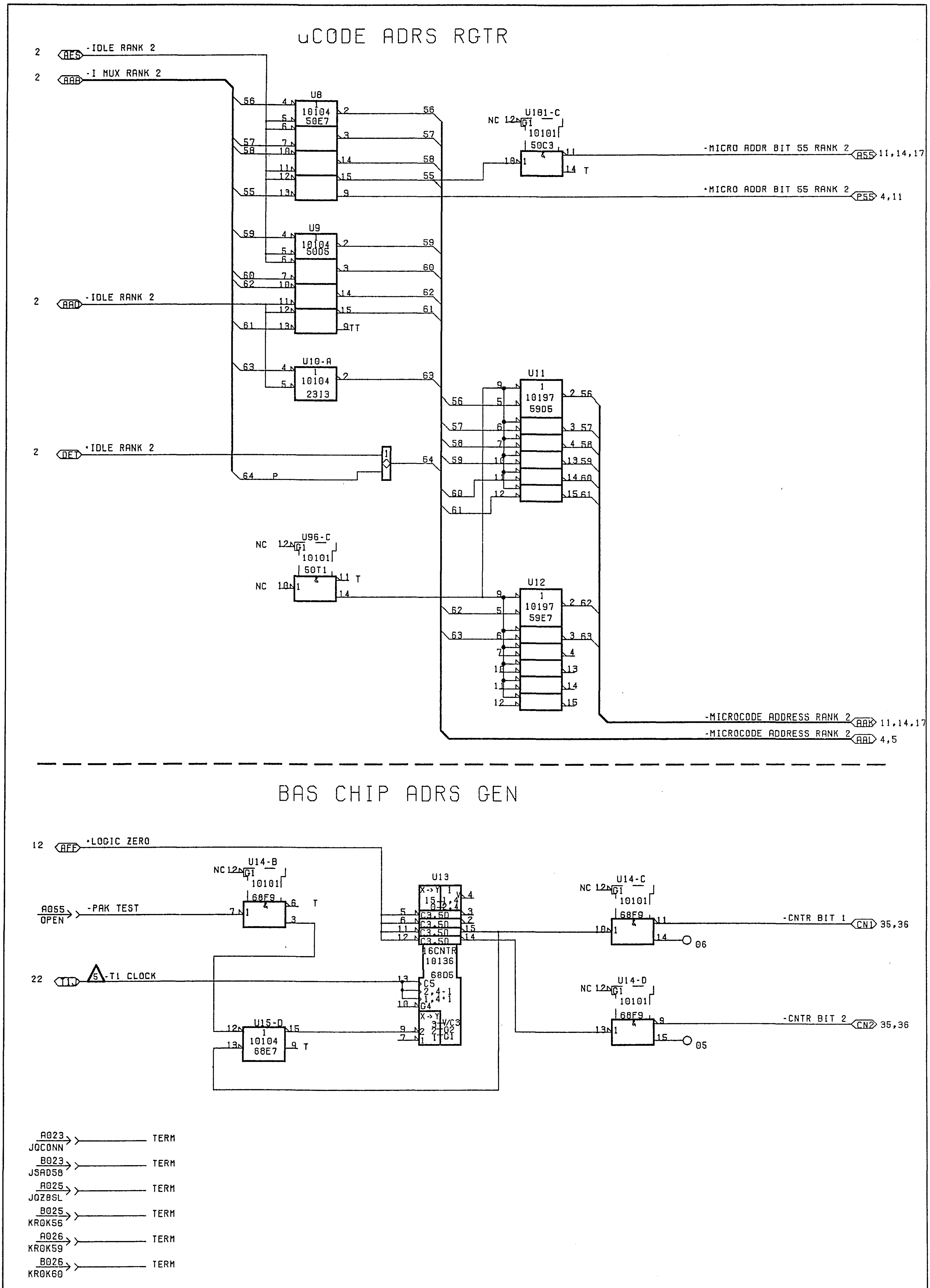
CONTROL DATA	REVISION HISTORY TYPE 1JWH	B	DWG NO. 53575537	DATE 06/14/88	REV F
		SHEET NO. 1	60462210	PAGE JW-01	



I RGTR BAS MUX	
0	I BARREL RANK 2
1	PP MEM DATA RANK 2

CONTROL DATA
MICROCODE BOARD
NEW FUNCTION SELECT
I REGISTER RANK 2 PARITY
TYPE 1JWH

	DWG NO.	DATE	REV
B	53575537	04/09/86	A
SHEET NO. 2	60462210	PAGE JW-02	

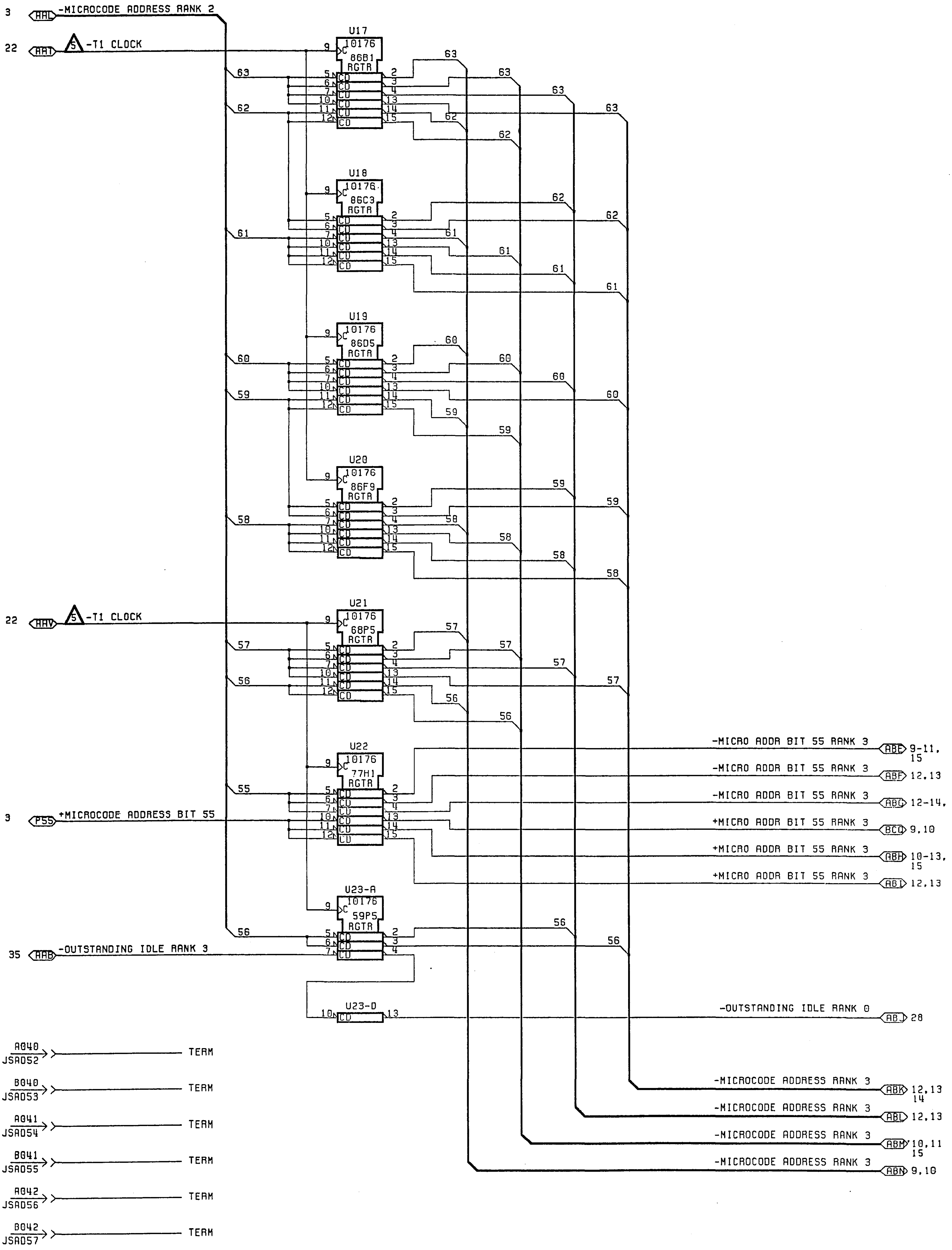


5 TOTAL LINE LENGTH 12 INCHES OR LESS

6 CLOCK LINES NO LONGER THAN 7 INCHES

CONTROL DATA	MICROCODE BOARD MICROCODE ADDRESS AND BARREL CHIP ADDRESS GENERATOR TYPE 1JWH	B	DWG NO. 53575537	DATE 06/14/88	REV F
		N	SHEET NO. 3	60462210	PAGE JW-03

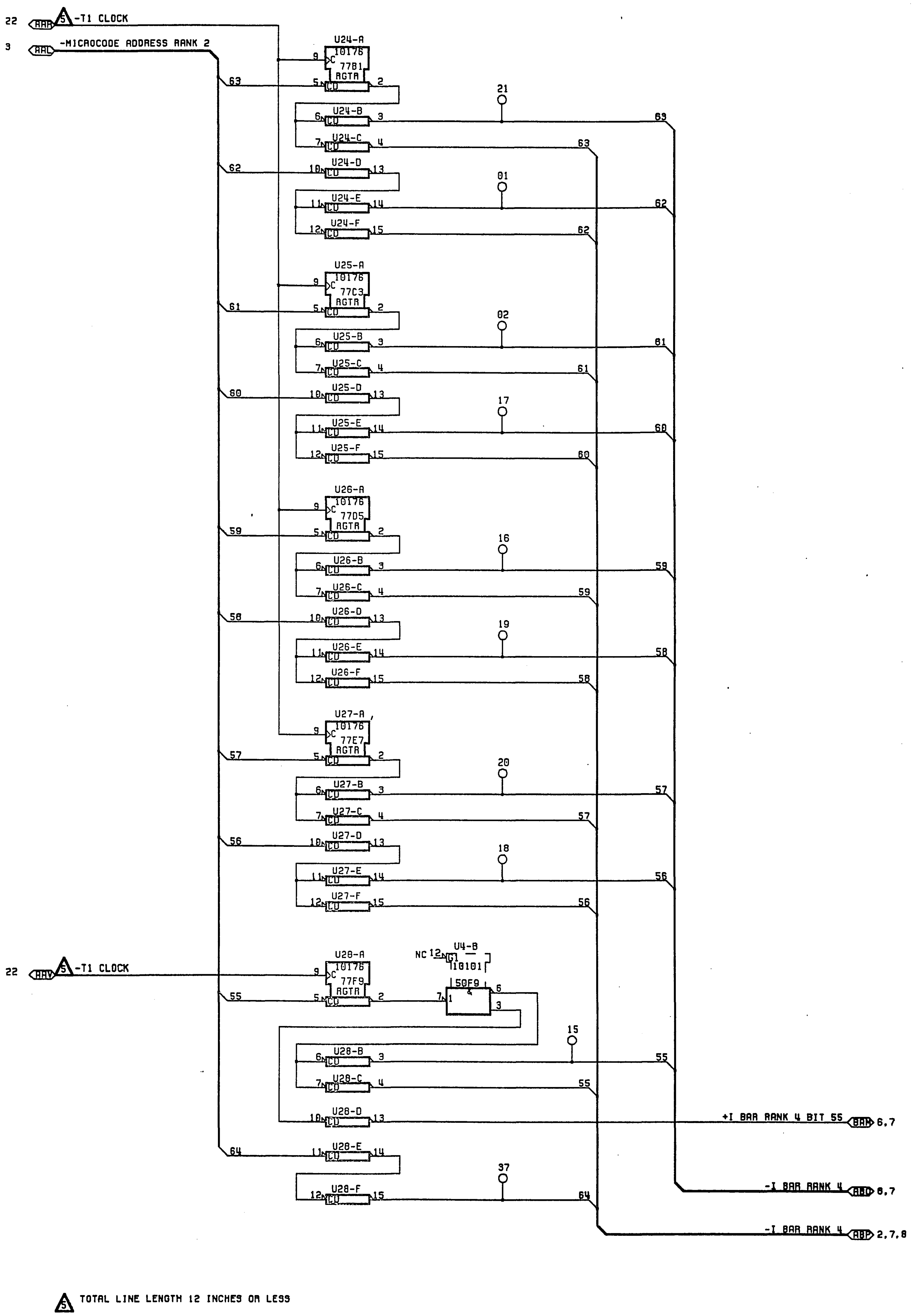
uCODE ADRS RANK 3 F/O RGTR


3 AAL -MICROCODE ADDRESS RANK 2
22 AAT 5 -T1 CLOCK
U17 10176 86B1 RGTR
U18 10176 86C3 RGTR
U19 10176 86D5 RGTR
U20 10176 86F9 RGTR
22 AAV 5 -T1 CLOCK
U21 10176 68P5 RGTR
U22 10176 77H1 RGTR
3 P55 +MICROCODE ADDRESS BIT 55
U23-A 10176 59P5 RGTR
35 AAB -OUTSTANDING IDLE RANK 3
U23-D
9 C
5 CD 2
6 CD 3
7 CD 4
10 CD 13
11 CD 14
12 CD 15
63
62
61
60
59
58
57
56
55
-MICRO ADDR BIT 55 RANK 3 ABE 9-11, 15
-MICRO ADDR BIT 55 RANK 3 ABF 12,13
-MICRO ADDR BIT 55 RANK 3 ABG 12-14,
+MICRO ADDR BIT 55 RANK 3 BCQ 9,10
+MICRO ADDR BIT 55 RANK 3 ABH 10-13, 15
+MICRO ADDR BIT 55 RANK 3 ABI 12,13
-OUTSTANDING IDLE RANK 0 ABJ 28
-MICROCODE ADDRESS RANK 3 ABK 12,13 14
-MICROCODE ADDRESS RANK 3 ABL 12,13
-MICROCODE ADDRESS RANK 3 ABM 10,11 15
-MICROCODE ADDRESS RANK 3 ABN 9,10
A040 JSA052 TERM
B040 JSA053 TERM
A041 JSA054 TERM
B041 JSA055 TERM
A042 JSA056 TERM
B042 JSA057 TERM

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD MICROCODE ADDRESS RANK 3 FANOUT TYPE 1JWH	B	DWG NO. 53575537	DATE 04/09/86	REV A
		N	SHEET NO. 4	60462210	PAGE JW-04

I BARREL RANKS 3 & 4 RGTR



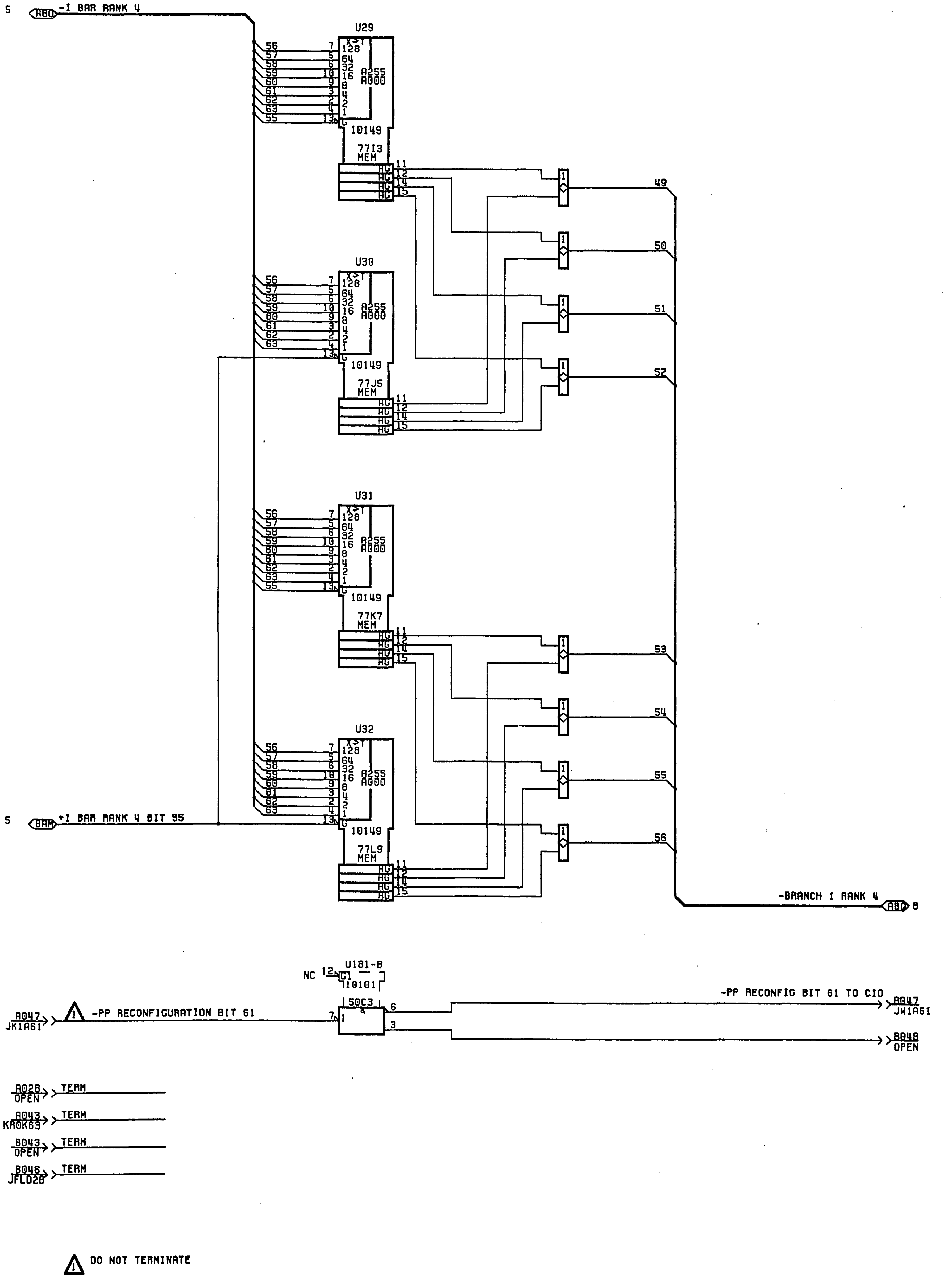
5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA

MICROCODE BOARD
I BARREL RANKS 3 & 4
TYPE 1JWH

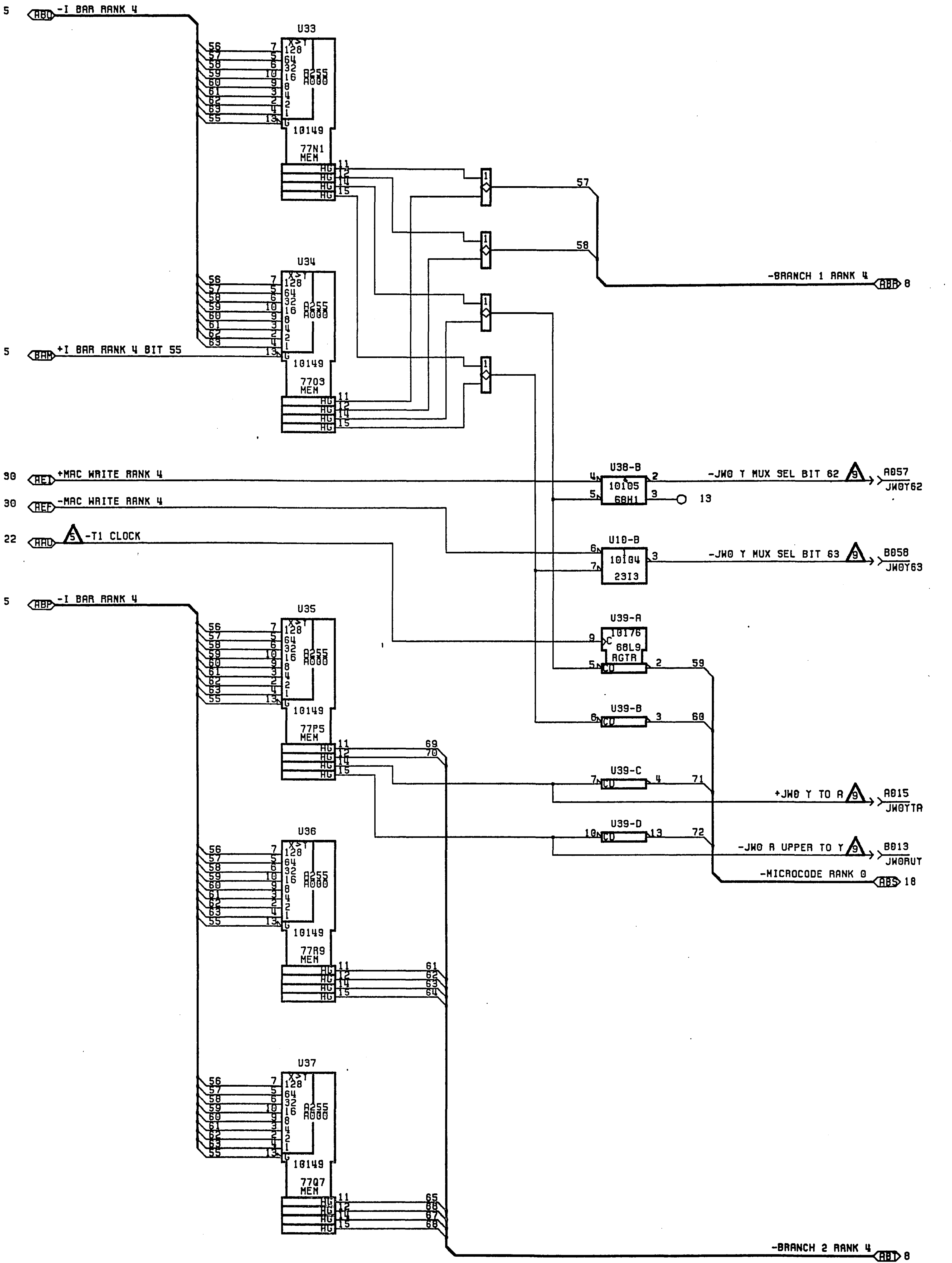
B	DWG NO. 53575537	DATE 11/01/85	REV A
SHEET NO. 5	60462210	PAGE JW-05	

BRANCH 1 ROMS uCODE BITS 49-56



CONTROL DATA	MICROCODE BOARD BRANCH 1 ROMS MICROCODE BITS 49-56 TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		SHEET NO. 6	60462210	PAGE JW-06	

BRANCH 1 ROMS uCODE BITS 57-58
BRANCH 2 ROMS uCODE BITS 59-72

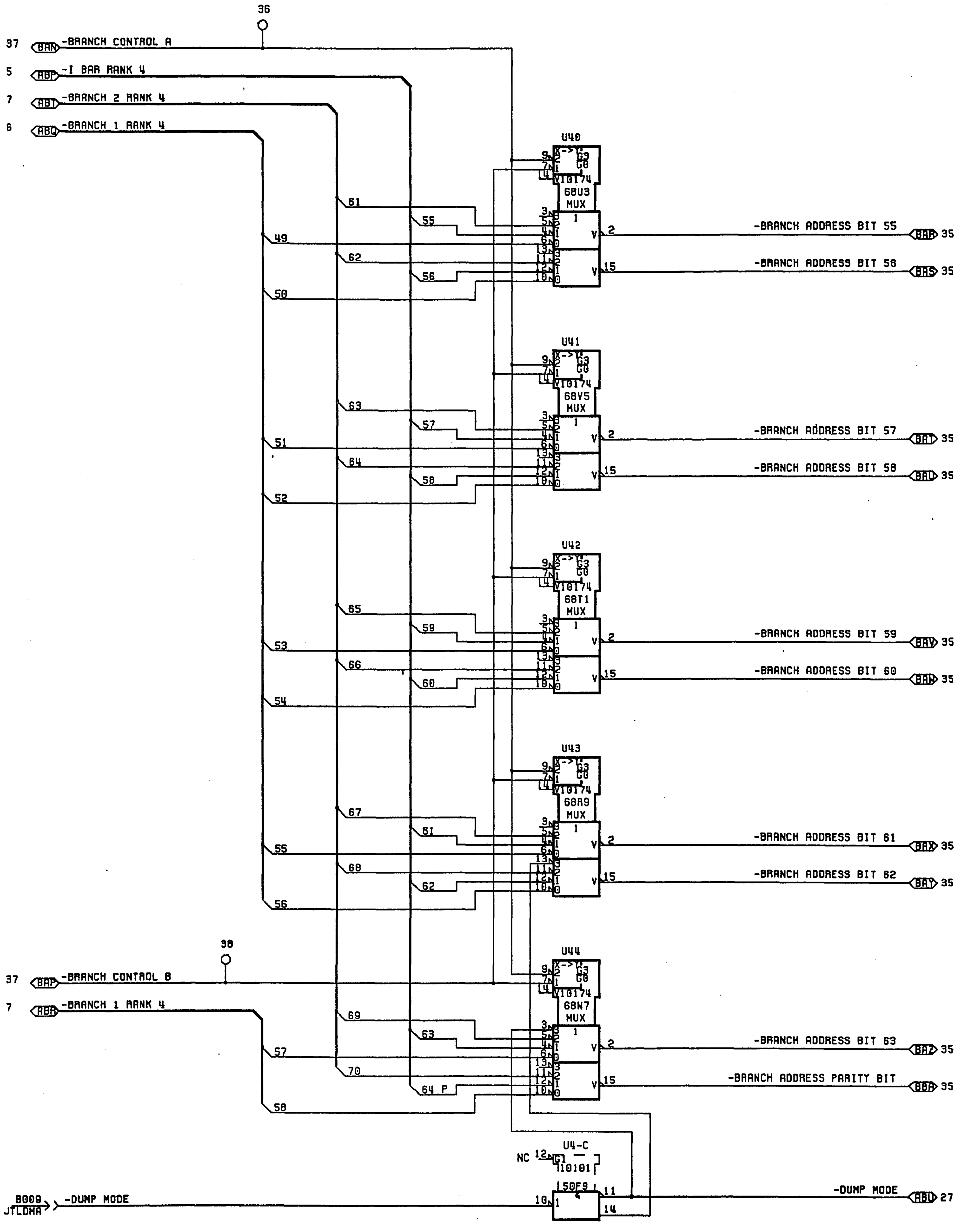


5 TOTAL LINE LENGTH 12 INCHES OR LESS

9 LINES NO LONGER THAN 12 INCHES

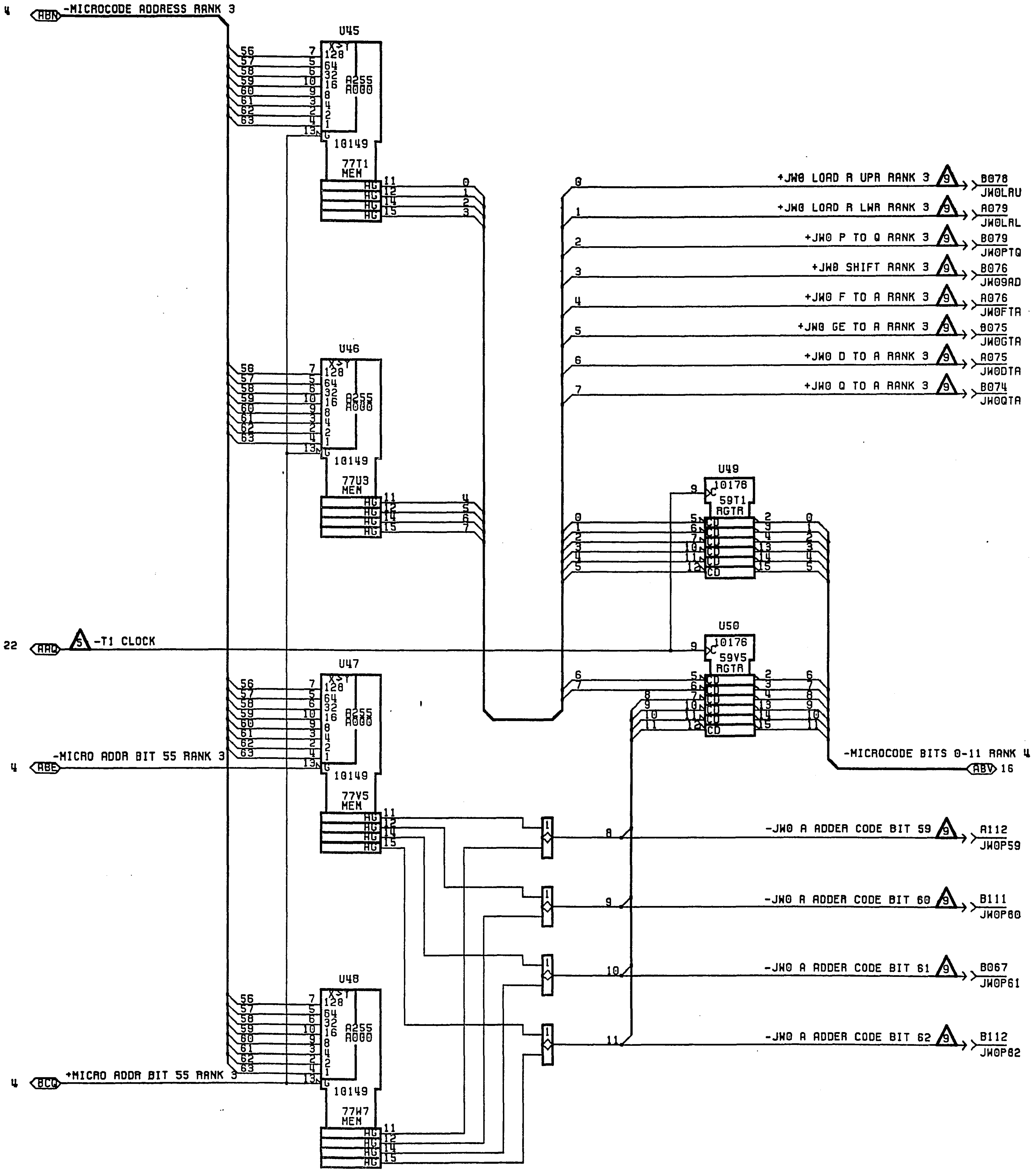
CONTROL DATA	MICROCODE BOARD BRAN 1 ROMS MICROCODE BITS 57-58 BRAN 2 ROMS MICROCODE BITS 59-72 TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		SHEET NO. 7	60462210	PAGE JW-07	

BRANCH SEL MUX



CONTROL DATA	MICROCODE BOARD BRANCH SELECT MUX TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		SHEET NO. 8	60462210	PAGE JW-08	

uCODE DECODERS BITS 0-11



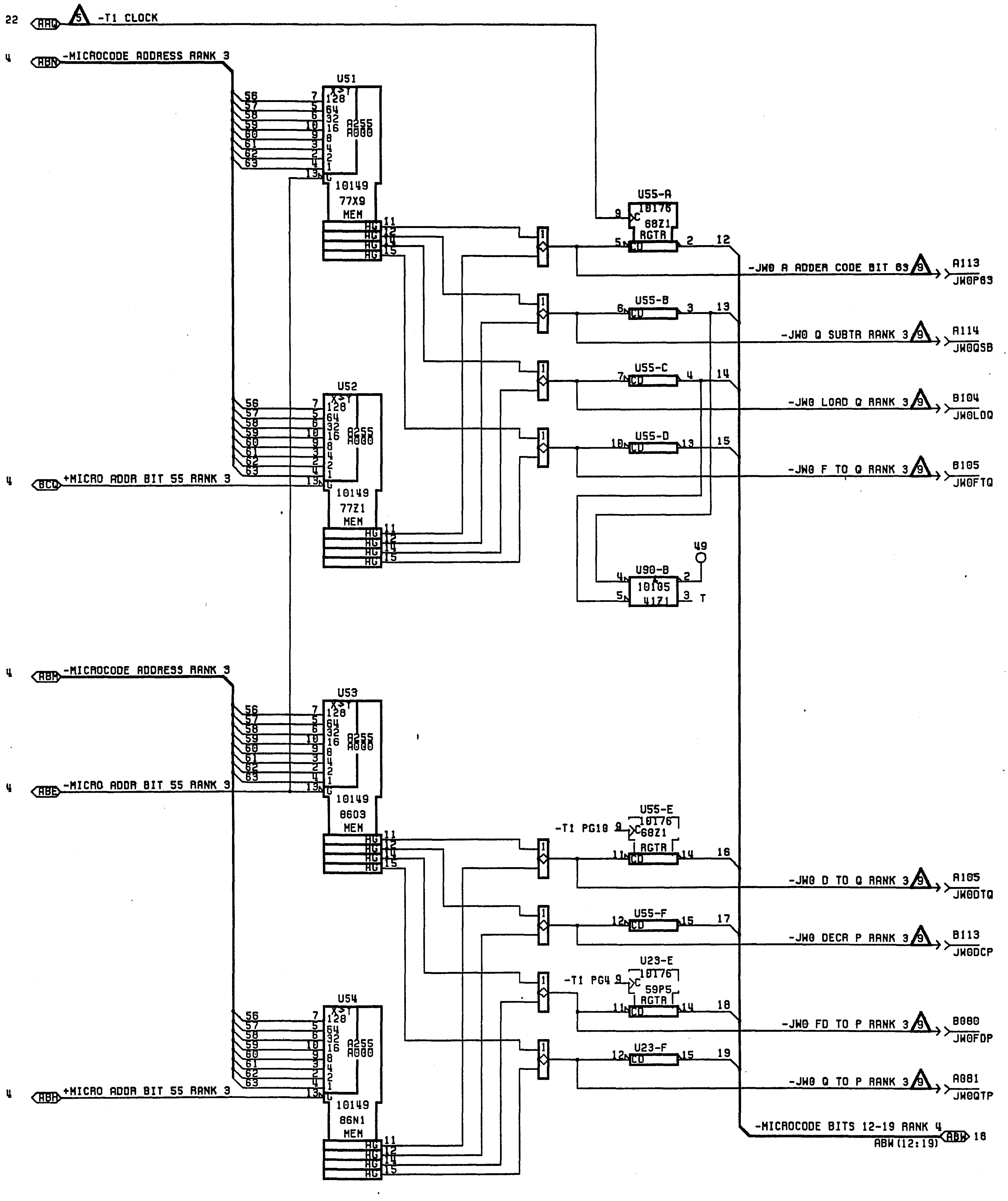
4 ABN -MICROCODE ADDRESS RANK 3
U45 A255 A000 10149 77T1 MEM
U46 A255 A000 10149 77U3 MEM
U47 A255 A000 10149 77V5 MEM
U48 A255 A000 10149 77H7 MEM
X>T 128 64 32 16 8 4 2 1 G
56 57 58 59 60 61 62 63
HG 11 12 14 15
22 AAQ 5 -T1 CLOCK
4 ABE -MICRO ADDR BIT 55 RANK 3
4 BCQ +MICRO ADDR BIT 55 RANK 3
0 +JW0 LOAD A UPR RANK 3 9 B078 JW0LAU
1 +JW0 LOAD A LWR RANK 3 9 A079 JW0LAL
2 +JW0 P TO Q RANK 3 9 B079 JW0PTQ
3 +JW0 SHIFT RANK 3 9 B076 JW09AD
4 +JW0 F TO A RANK 3 9 A076 JW0FTA
5 +JW0 GE TO A RANK 3 9 B075 JW0GTA
6 +JW0 D TO A RANK 3 9 A075 JW0DTA
7 +JW0 Q TO A RANK 3 9 B074 JW0QTA
U49 10176 59T1 RGTR
U50 10176 59V5 RGTR
CD
-MICROCODE BITS 0-11 RANK 4 ABV 16
8 -JW0 A ADDER CODE BIT 59 9 A112 JW0P59
9 -JW0 A ADDER CODE BIT 60 9 B111 JW0P60
10 -JW0 A ADDER CODE BIT 61 9 B067 JW0P61
11 -JW0 A ADDER CODE BIT 62 9 B112 JW0P62

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

△9 LINES NO LONGER THAN 12 INCHES

CONTROL DATA	MICROCODE BOARD MICROCODE BITS 0-11 TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
			SHEET NO. 9	60462210	PAGE JW-09

uCODE DECODERS BITS 12-19

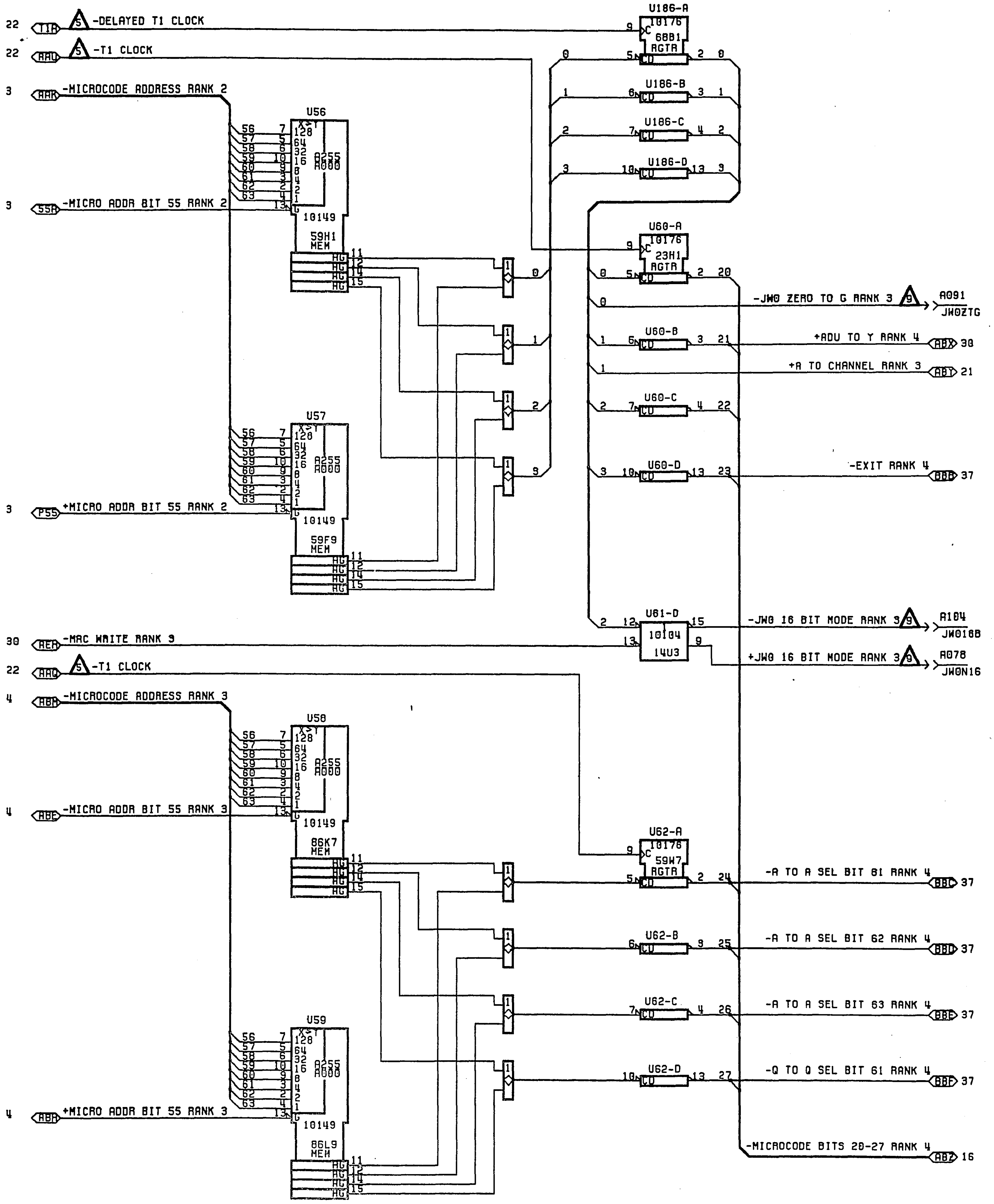

22 ABQ 5 -T1 CLOCK
4 ABN -MICROCODE ADDRESS RANK 3
U51
56 57 58 59 60 61 62 63
7 5 6 10 9 3 2 4 13
X>Y 128 64 32 16 8 4 2 1 G
A255 A000
10149
77X9
MEM
AG 11 12 14 15
U55-A
9 C 10176 68Z1 RGTR
5 CD 2 12
-JW0 A ADDER CODE BIT 63 9 A113 JW0P63
U55-B 6 CD 3 13
-JW0 Q SUBTR RANK 3 9 A114 JW0QSB
U55-C 7 CD 4 14
-JW0 LOAD Q RANK 3 9 B104 JW0LDQ
U55-D 10 CD 13 15
-JW0 F TO Q RANK 3 9 B105 JW0FTQ
U52
10149
77Z1
MEM
4 BCQ +MICRO ADDR BIT 55 RANK 3
49
U90-B 4 10105 4171 2 5 3 T
4 ABM -MICROCODE ADDRESS RANK 3
U53
4 ABE -MICRO ADDR BIT 55 RANK 3
10149
8603
MEM
U55-E -T1 PG10 9 C 10176 68Z1 RGTR
11 CD 14 16
-JW0 D TO Q RANK 3 9 A105 JW0DTQ
U55-F 12 CD 15 17
-JW0 DECR P RANK 3 9 B113 JW0DCP
U23-E -T1 PG4 9 C 10176 59P5 RGTR
11 CD 14 18
-JW0 FD TO P RANK 3 9 B080 JW0FDP
U23-F 12 CD 15 19
-JW0 Q TO P RANK 3 9 A081 JW0QTP
U54
4 ABH +MICRO ADDR BIT 55 RANK 3
10149
86N1
MEM
-MICROCODE BITS 12-19 RANK 4
ABW(12:19) ABW 16

5 TOTAL LINE LENGTH 12 INCHES OR LESS

9 LINES NO LONGER THAN 12 INCHES

CONTROL DATA	MICROCODE BOARD MICROCODE BITS 12-19 TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		SHEET NO. 10	60462210	PAGE JW-10	

uCODE DECODERS BITS 20-27



22 T1A -DELAYED T1 CLOCK
22 AAU -T1 CLOCK
3 AAR -MICROCODE ADDRESS RANK 2
3 55A -MICRO ADDR BIT 55 RANK 2
3 P55 +MICRO ADDR BIT 55 RANK 2
30 AEA -MAC WRITE RANK 3
22 AAQ -T1 CLOCK
4 ABA -MICROCODE ADDRESS RANK 3
4 ABE -MICRO ADDR BIT 55 RANK 3
4 ABA +MICRO ADDR BIT 55 RANK 3
U56 10149 59H1 MEM A255 A000
U57 10149 59F9 MEM A255 A000
U58 10149 86K7 MEM A255 A000
U59 10149 86L9 MEM A255 A000
U186-A 10176 68B1 AGTA
U186-B
U186-C
U186-D
U60-A 10176 23H1 AGTA
U60-B
U60-C
U60-D
U61-D 10104 14U3
U62-A 10176 59H7 AGTA
U62-B
U62-C
U62-D
-JW0 ZERO TO G RANK 3 A091 JW0ZTG
+ADU TO Y RANK 4 ABX 30
+A TO CHANNEL RANK 3 ABY 21
-EXIT RANK 4 ABB 37
-JW0 16 BIT MODE RANK 3 A104 JW016B
+JW0 16 BIT MODE RANK 3 A078 JW0N16
-A TO A SEL BIT 61 RANK 4 ABC 37
-A TO A SEL BIT 62 RANK 4 ABD 37
-A TO A SEL BIT 63 RANK 4 ABE 37
-Q TO Q SEL BIT 61 RANK 4 ABF 37
-MICROCODE BITS 20-27 RANK 4 ABZ 16

5 TOTAL LINE LENGTH 12 INCHES OR LESS

9 LINES NO LONGER THAN 12 INCHES

CONTROL DATA

MICROCODE BOARD
MICROCODE BITS 20-27
TYPE 1JWH

B

DWG NO. 53575537

DATE 04/09/86

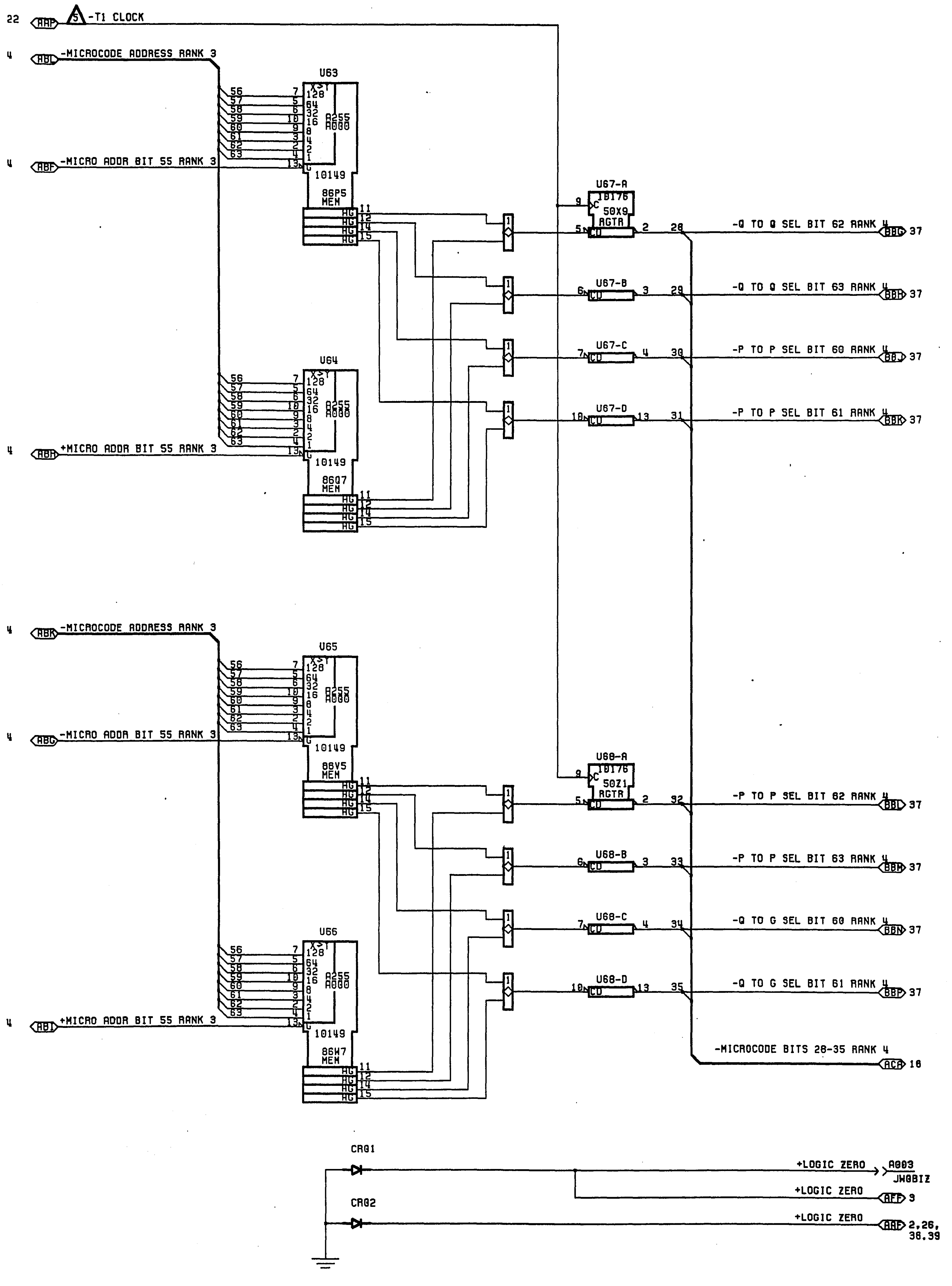
REV A

SHEET NO. 11

60462210

PAGE JW-11

uCODE DECODERS BITS 28-35

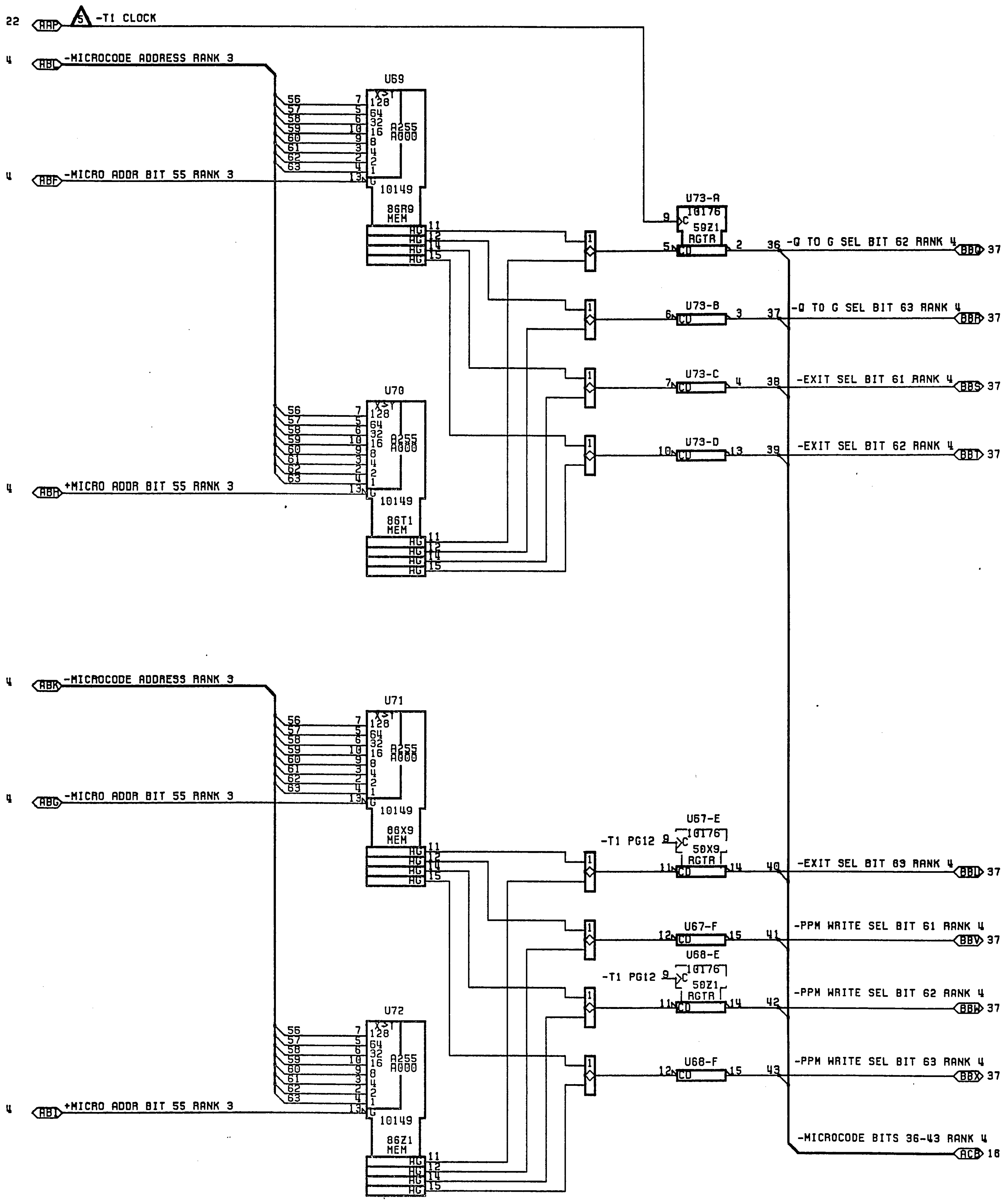


22 ABP -T1 CLOCK
4 ABL -MICROCODE ADDRESS RANK 3
4 ABF -MICRO ADDR BIT 55 RANK 3
4 ABH +MICRO ADDR BIT 55 RANK 3
4 ABK -MICROCODE ADDRESS RANK 3
4 ABG -MICRO ADDR BIT 55 RANK 3
4 ABI +MICRO ADDR BIT 55 RANK 3
56 57 58 59 60 61 62 63
U63
A255 A000
10149
86P5 MEM
U64
86Q7 MEM
U65
86V5 MEM
U66
86W7 MEM
11 12 14 15
U67-A 10176 50X9 RGTR
U67-B
U67-C
U67-D
U68-A 10176 50Z1 RGTR
U68-B
U68-C
U68-D
28 -Q TO Q SEL BIT 62 RANK 4 BBG 37
29 -Q TO Q SEL BIT 63 RANK 4 BBH 37
30 -P TO P SEL BIT 60 RANK 4 BBJ 37
31 -P TO P SEL BIT 61 RANK 4 BBK 37
32 -P TO P SEL BIT 62 RANK 4 BBL 37
33 -P TO P SEL BIT 63 RANK 4 BBM 37
34 -Q TO G SEL BIT 60 RANK 4 BBN 37
35 -Q TO G SEL BIT 61 RANK 4 BBP 37
-MICROCODE BITS 28-35 RANK 4 ACA 16
CR01
CR02
+LOGIC ZERO A003 JW08IZ
+LOGIC ZERO AFP 3
+LOGIC ZERO ARP 2,26, 36,39

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD MICROCODE BITS 28-35 TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		SHEET NO. 12	60462210	PAGE JW-12	

uCODE DECODERS BITS 36-43



22 AAP -T1 CLOCK
4 ABL -MICROCODE ADDRESS RANK 3
4 ABF -MICRO ADDR BIT 55 RANK 3
4 ABH +MICRO ADDR BIT 55 RANK 3
4 ABK -MICROCODE ADDRESS RANK 3
4 ABG -MICRO ADDR BIT 55 RANK 3
4 ABI +MICRO ADDR BIT 55 RANK 3
U69
U70
U71
U72
56
57
58
59
60
61
62
63
128
64
32
16
8
4
2
1
G
A255
A000
10149
86A9
86T1
86X9
86Z1
MEM
AG
11
12
14
15
U73-A
10176
59Z1
AGTR
C
CD
U73-B
U73-C
U73-D
U67-E
50X9
U67-F
U68-E
50Z1
U68-F
-T1 PG12
36 -Q TO G SEL BIT 62 RANK 4 BBD 37
37 -Q TO G SEL BIT 63 RANK 4 BBA 37
38 -EXIT SEL BIT 61 RANK 4 BBS 37
39 -EXIT SEL BIT 62 RANK 4 BBT 37
40 -EXIT SEL BIT 63 RANK 4 BBU 37
41 -PPM WRITE SEL BIT 61 RANK 4 BBV 37
42 -PPM WRITE SEL BIT 62 RANK 4 BBW 37
43 -PPM WRITE SEL BIT 63 RANK 4 BBX 37
-MICROCODE BITS 36-43 RANK 4 ACB 16

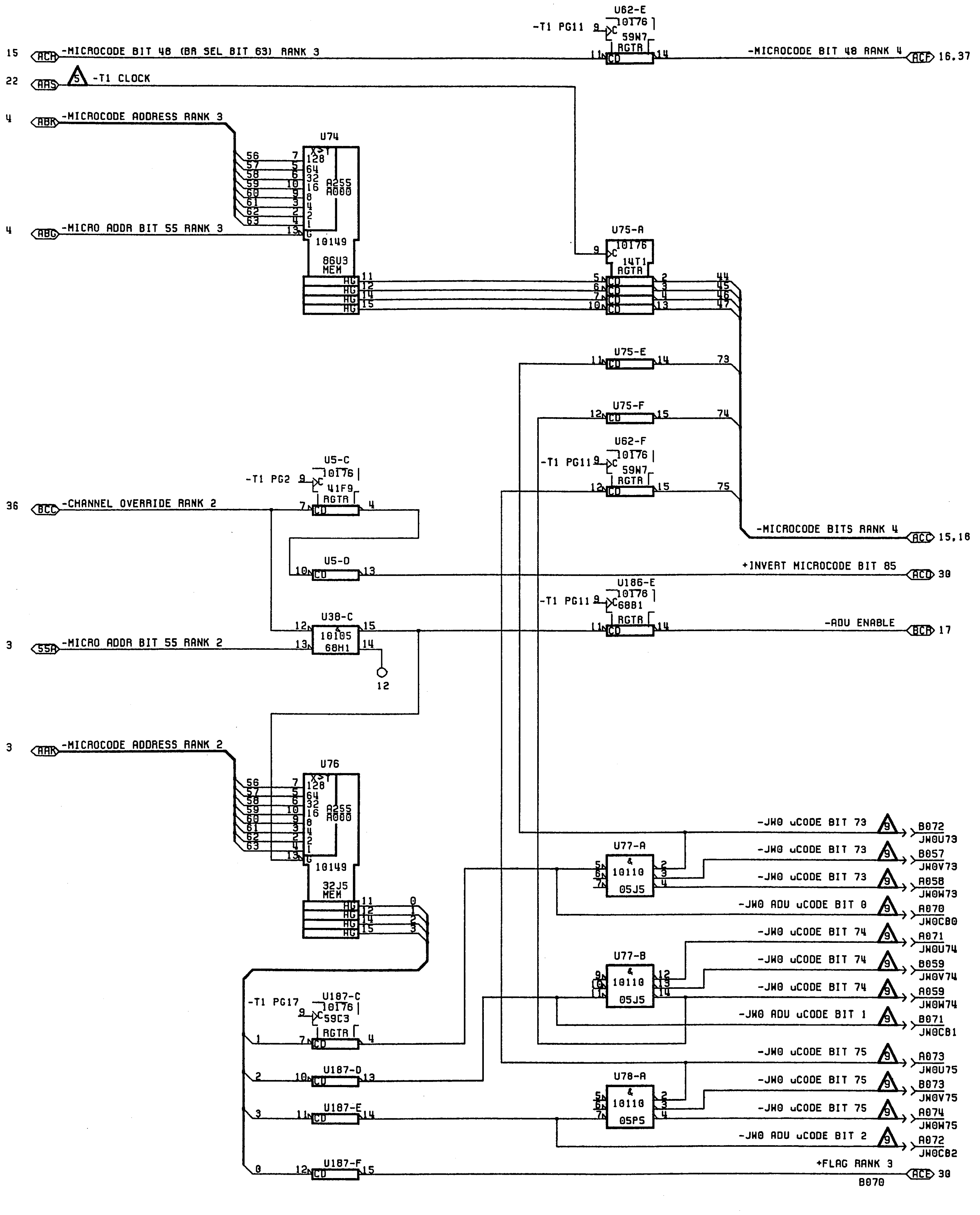
5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA

MICROCODE BOARD
MICROCODE BITS 36-43
TYPE 1JWH

B	DWG NO. 53575537		DATE 11/01/85	REV A
SHEET NO. 13		60462210	PAGE JW-19	

uCODE DECODERS BITS 44-47,72-75



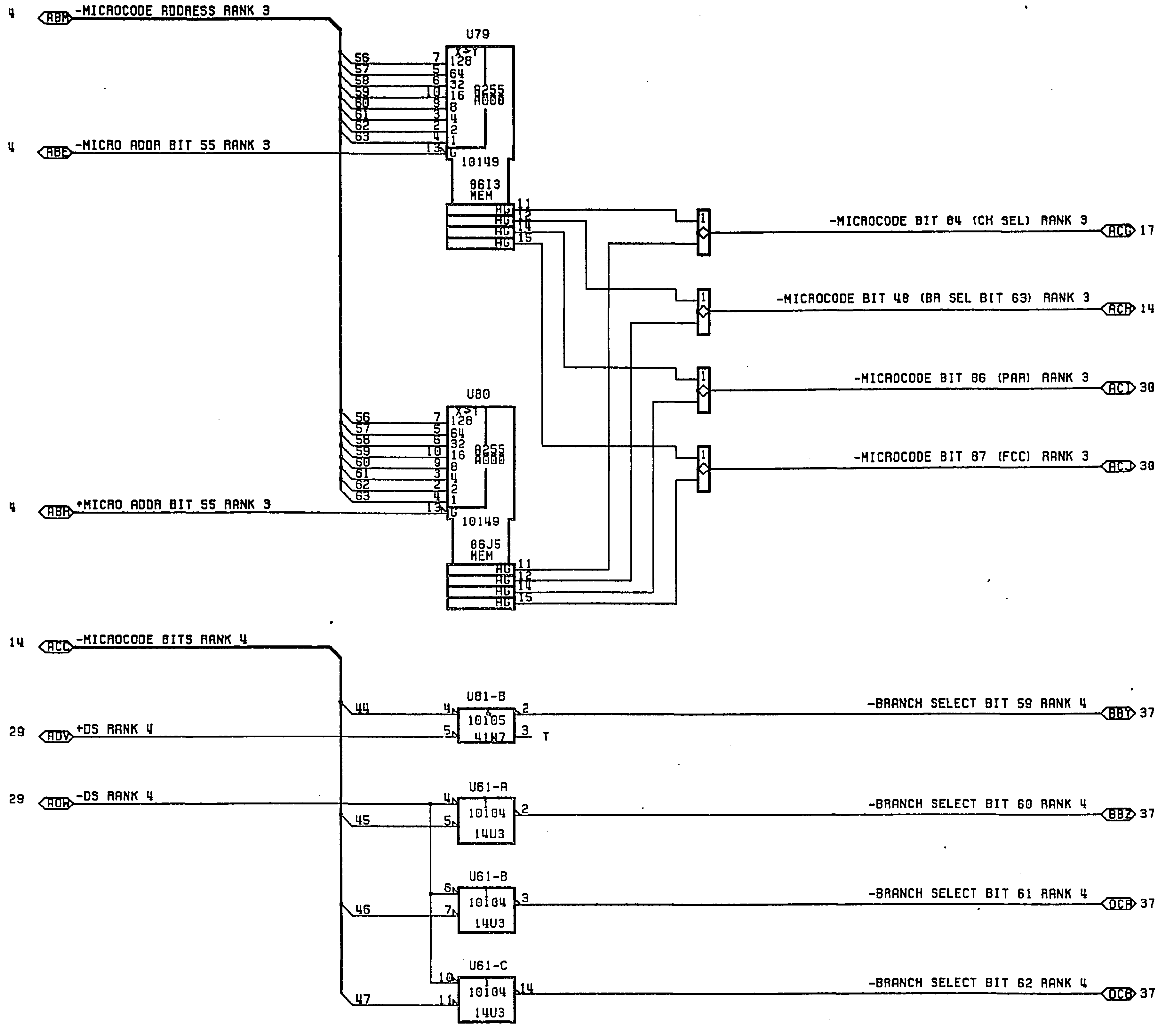
U62-E
-T1 PG11
10176
59N7
RGTR
15 ACH -MICROCODE BIT 48 (BR SEL BIT 63) RANK 3
-MICROCODE BIT 48 RANK 4 ACF 16.37
22 AAS 5 -T1 CLOCK
4 ABR -MICROCODE ADDRESS RANK 3
U74
128 64 32 16 8 4 2 1
A255 A000
4 ABG -MICRO ADDR BIT 55 RANK 3
10149
86U3
MEM
U75-A
10176
14T1
RGTR
44 45 46 47
U75-E
73
U75-F
74
U62-F
-T1 PG11
10176
59N7
75
U5-C
-T1 PG2
10176
41F9
36 BCC -CHANNEL OVERRIDE RANK 2
-MICROCODE BITS RANK 4 ACC 15,16
U5-D
+INVERT MICROCODE BIT 85 ACD 30
U186-E
-T1 PG11
10176
68B1
U38-C
10105
68H1
-ADU ENABLE BCB 17
3 55A -MICRO ADDR BIT 55 RANK 2
12
3 AAR -MICROCODE ADDRESS RANK 2
U76
A255 A000
10149
32J5
MEM
U77-A
10110
05J5
-JW0 uCODE BIT 73 9 B072 JW0U73
-JW0 uCODE BIT 73 9 B057 JW0V73
-JW0 uCODE BIT 73 9 A058 JW0W73
-JW0 ADU uCODE BIT 0 9 A070 JW0CB0
-JW0 uCODE BIT 74 9 A071 JW0U74
U77-B
10110
05J5
-JW0 uCODE BIT 74 9 B059 JW0V74
-JW0 uCODE BIT 74 9 A059 JW0W74
-JW0 ADU uCODE BIT 1 9 B071 JW0CB1
U187-C
-T1 PG17
10176
59C3
RGTR
U187-D
U187-E
U78-A
10110
05P5
-JW0 uCODE BIT 75 9 A073 JW0U75
-JW0 uCODE BIT 75 9 B073 JW0V75
-JW0 uCODE BIT 75 9 A074 JW0W75
-JW0 ADU uCODE BIT 2 9 A072 JW0CB2
U187-F
+FLAG RANK 3 ACE 30
B070

5 TOTAL LINE LENGTH 12 INCHES OR LESS

9 LINES NO LONGER THAN 12 INCHES

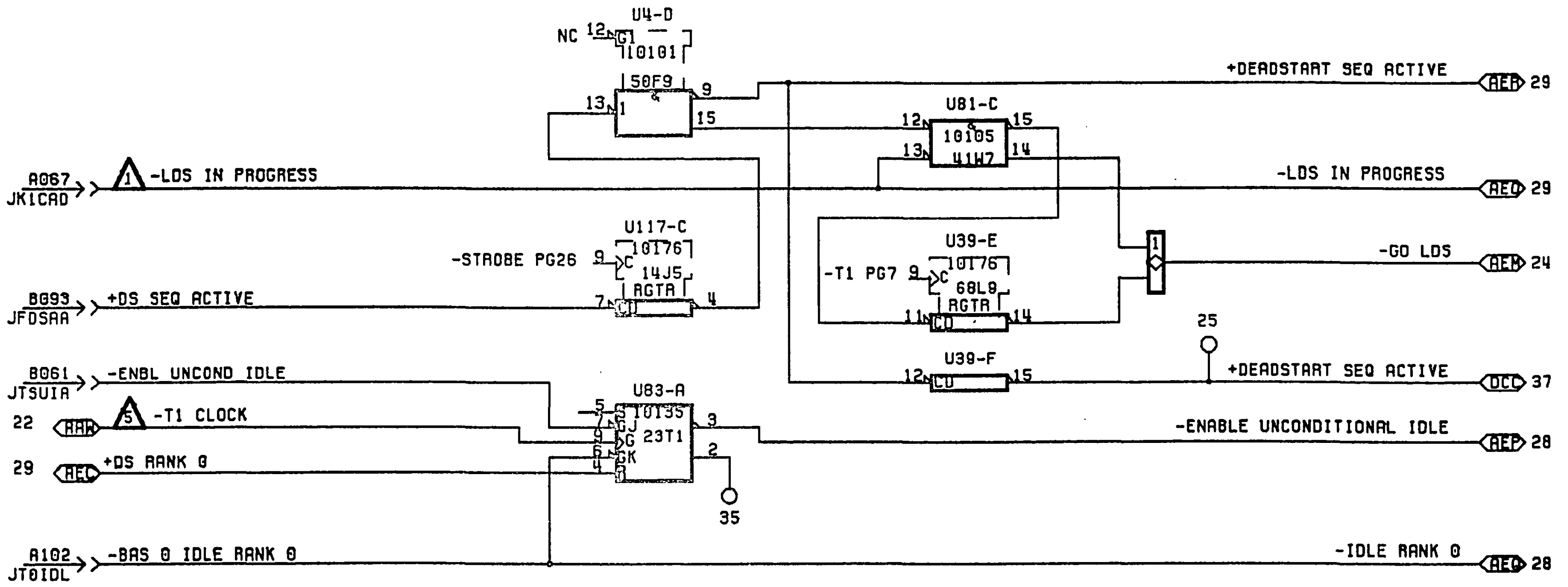
CONTROL DATA	MICROCODE BOARD MICROCODE BITS 44-47,72-75 TYPE 1JWH	B	DWG NO. 53575537	DATE 06/04/86	REV D
			SHEET NO. 14	60462210	PAGE JW-14

uCODE ROMS



4 ABM -MICROCODE ADDRESS RANK 3
4 ABE -MICRO ADDR BIT 55 RANK 3
4 ABR +MICRO ADDR BIT 55 RANK 3
U79
56 57 58 59 60 61 62 63
128 64 32 16 8 4 2 1
256 A255 A000
10149
86I3 MEM
U80
86J5 MEM
11 12 14 15
-MICROCODE BIT 84 (CH SEL) RANK 3 ACG 17
-MICROCODE BIT 48 (BR SEL BIT 63) RANK 3 ACB 14
-MICROCODE BIT 86 (PAR) RANK 3 ACI 30
-MICROCODE BIT 87 (FCC) RANK 3 ACJ 30
14 ACC -MICROCODE BITS RANK 4
29 ADV +DS RANK 4
29 ADR -DS RANK 4
44 45 46 47
U81-B 10105 41H7
T
U61-A 10104 14U3
U61-B 10104 14U3
U61-C 10104 14U3
-BRANCH SELECT BIT 59 RANK 4 BBY 37
-BRANCH SELECT BIT 60 RANK 4 BBZ 37
-BRANCH SELECT BIT 61 RANK 4 DCA 37
-BRANCH SELECT BIT 62 RANK 4 DCB 37

DEADSTART

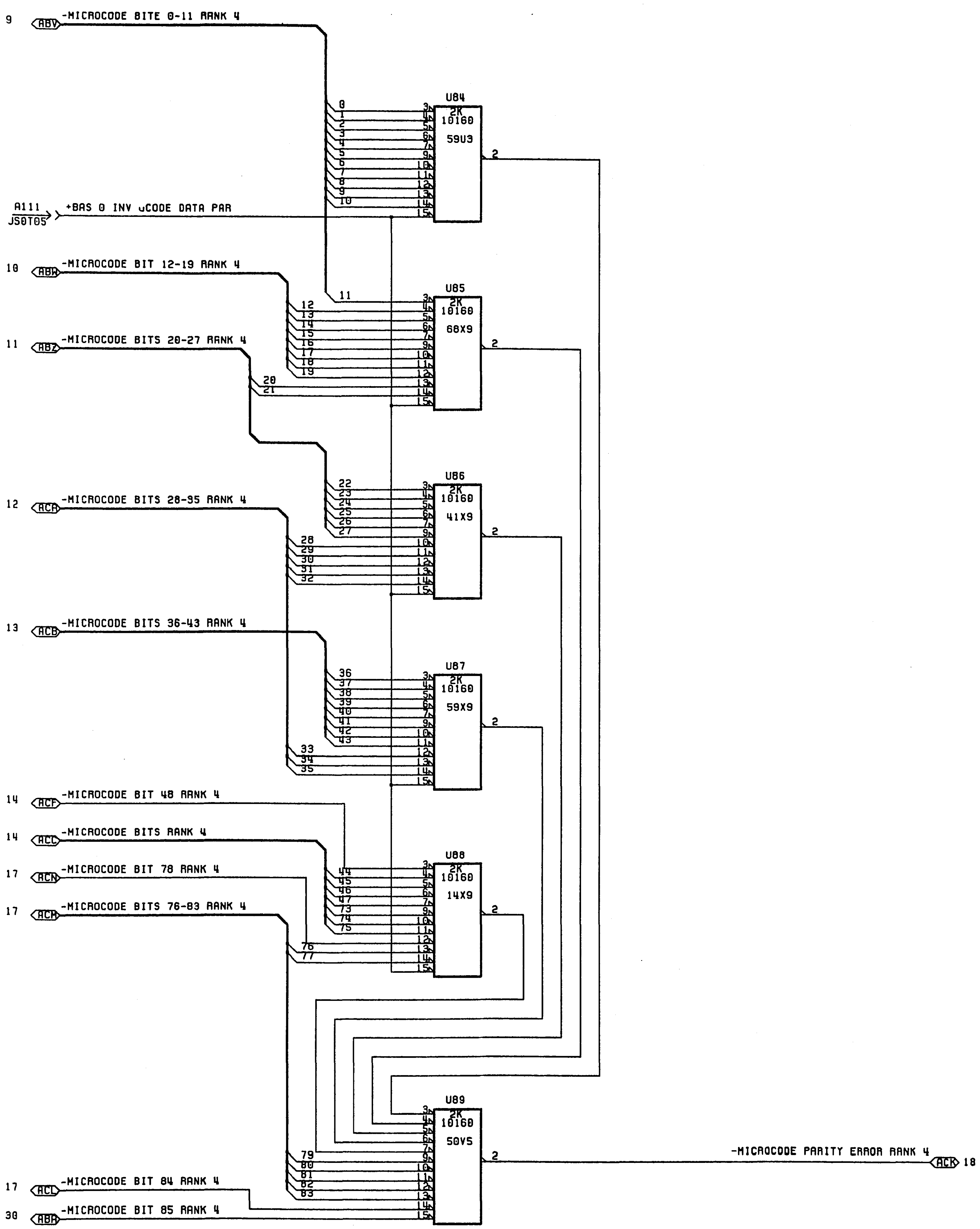


△1 DO NOT TERMINATE

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

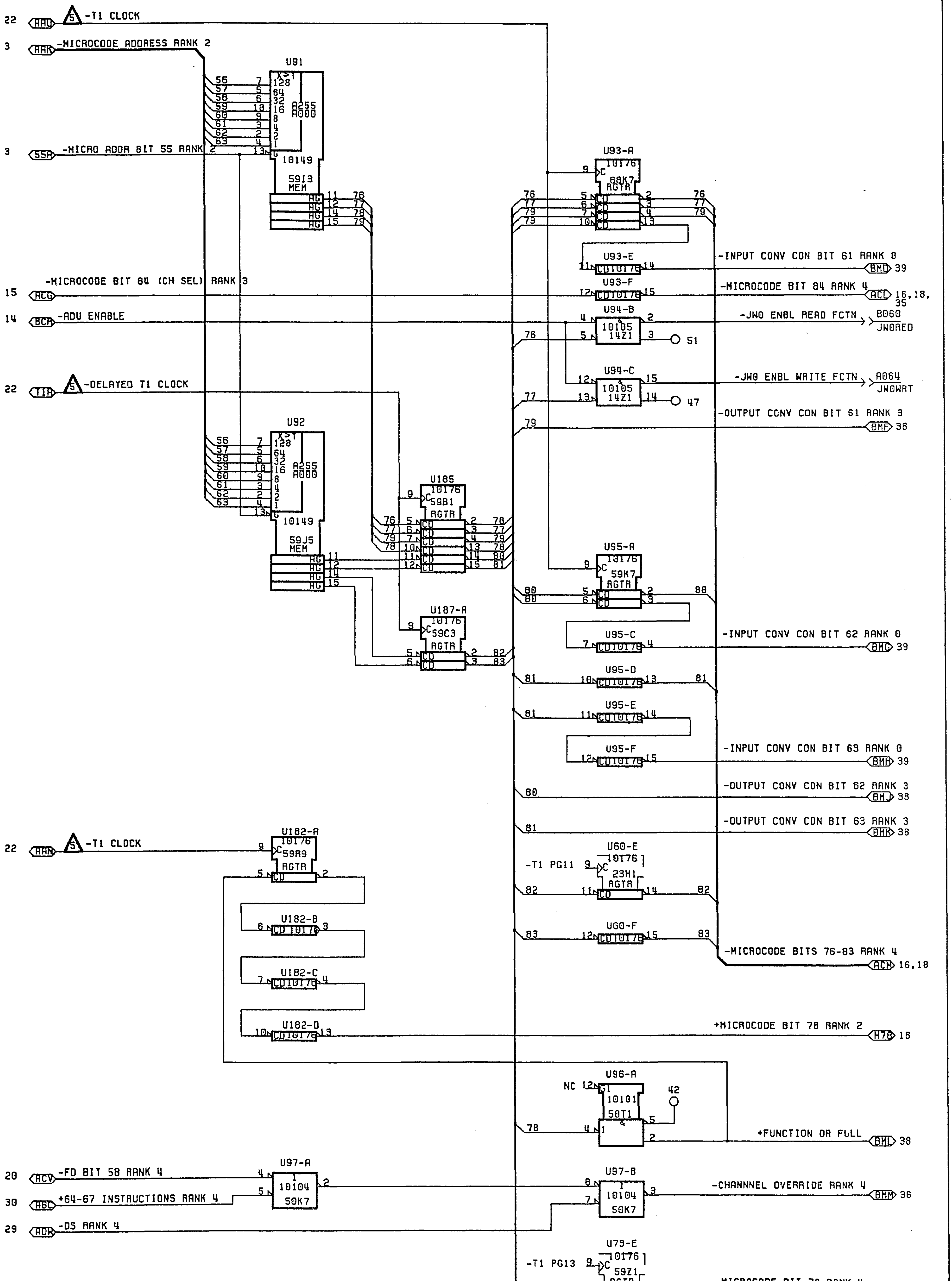
CONTROL DATA	MICROCODE BOARD MICROCODE ROMS DEADSTART TYPE 1JWH	B	DWG NO. 53575537	DATE 04/09/86	REV A
			SHEET NO. 15	60462210	PAGE JW-15

uCODE PAR CHECKER


9 ABV -MICROCODE BITS 0-11 RANK 4
A111 J50T05 +BAS 0 INV uCODE DATA PAR
10 ABW -MICROCODE BIT 12-19 RANK 4
11 ABZ -MICROCODE BITS 20-27 RANK 4
12 ACA -MICROCODE BITS 28-35 RANK 4
13 ACB -MICROCODE BITS 36-43 RANK 4
14 ACF -MICROCODE BIT 48 RANK 4
14 ACL -MICROCODE BITS RANK 4
17 ACN -MICROCODE BIT 78 RANK 4
17 ACM -MICROCODE BITS 76-83 RANK 4
17 ACL -MICROCODE BIT 84 RANK 4
30 ABR -MICROCODE BIT 85 RANK 4
U84 2K 10160 59U3
U85 2K 10160 68X9
U86 2K 10160 41X9
U87 2K 10160 59X9
U88 2K 10160 14X9
U89 2K 10160 50V5
-MICROCODE PARITY ERROR RANK 4 ACK 18

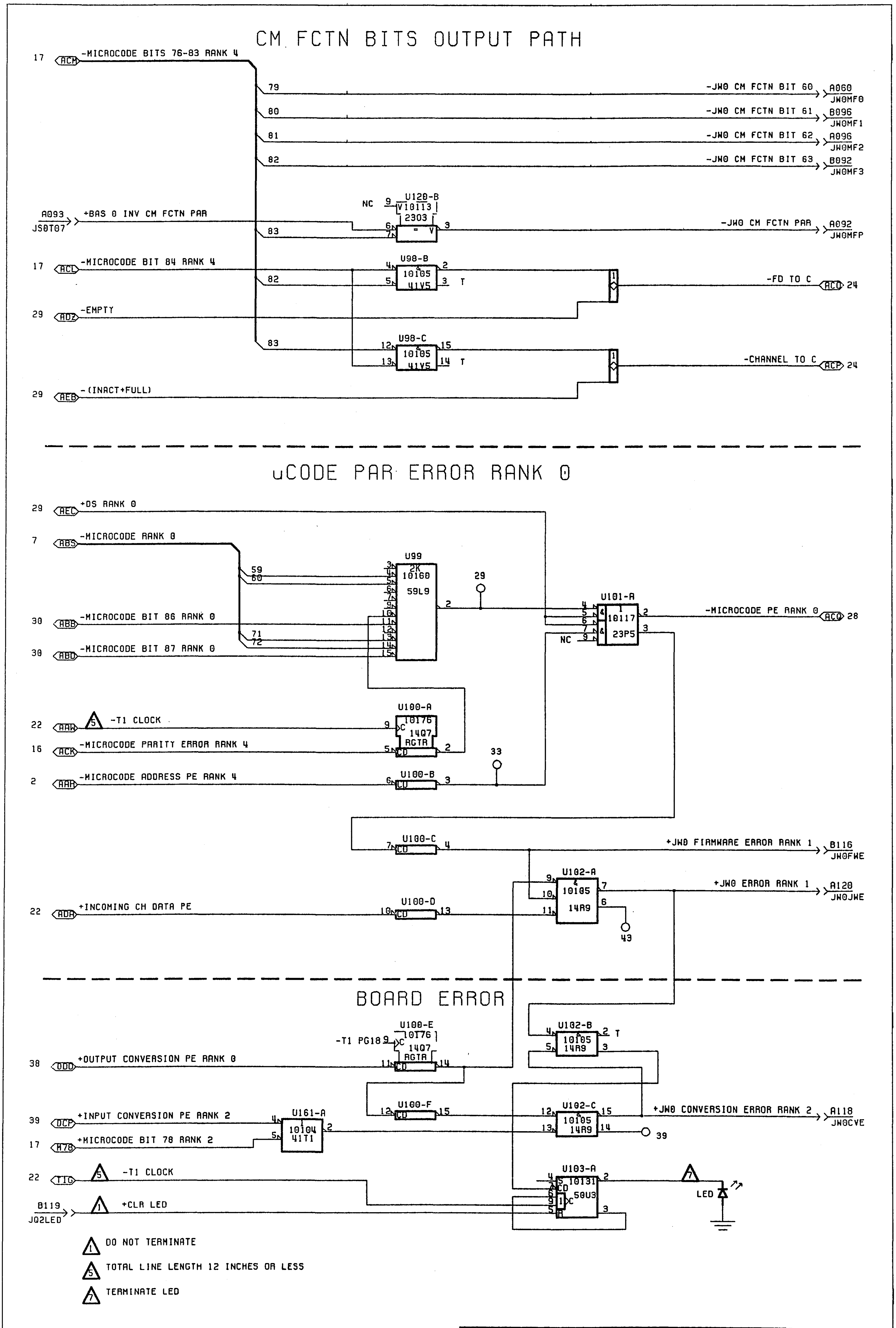
CONTROL DATA	MICROCODE BOARD MICROCODE PARITY CHECKER TYPE 1JWH	B	DWG NO. 53575537	DATE 06/04/86	REV D
		SHEET NO. 16	60462210	PAGE JH-16	

uCODE DECODERS BITS 76-83



5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD MICROCODE BITS 76-83	B	DWG NO. 53575537	DATE 01/12/87	REV E
	TYPE 1JWH	SHEET NO. 17	60462210	PAGE JW-17	


CM FCTN BITS OUTPUT PATH
17 ACM -MICROCODE BITS 76-83 RANK 4
79
80
81
82
-JW0 CM FCTN BIT 60 A060 JW0MF0
-JW0 CM FCTN BIT 61 B096 JW0MF1
-JW0 CM FCTN BIT 62 A096 JW0MF2
-JW0 CM FCTN BIT 63 B092 JW0MF3
NC 9 U120-B V10113 2303
A093 JS0T07 +BAS 0 INV CM FCTN PAR
83
-JW0 CM FCTN PAR A092 JW0MFP
17 ACL -MICROCODE BIT 84 RANK 4
U98-B 10105 41V5
82
-FD TO C ACO 24
29 AD2 -EMPTY
U98-C 10105 41V5
83
-CHANNEL TO C ACP 24
29 AEB -(INACT+FULL)
uCODE PAR ERROR RANK 0
29 AEC +DS RANK 0
7 AB5 -MICROCODE RANK 0
59
60
U99 2K 10160 59L9
29
71
72
30 ABB -MICROCODE BIT 86 RANK 0
30 ABD -MICROCODE BIT 87 RANK 0
U101-A 10117 23P5
NC
-MICROCODE PE RANK 0 ACQ 28
U100-A 10176 1407 AGTR
22 AAH 5 -T1 CLOCK
16 ACK -MICROCODE PARITY ERROR RANK 4
33
U100-B
2 AAH -MICROCODE ADDRESS PE RANK 4
U100-C
+JW0 FIRMWARE ERROR RANK 1 B116 JW0FWE
U102-A 10105 14A9
+JW0 ERROR RANK 1 A120 JW0JWE
22 ADA +INCOMING CH DATA PE
U100-D
43
BOARD ERROR
U100-E 10176 1407 AGTR
-T1 PG18
U102-B 10105 14A9
38 DDD +OUTPUT CONVERSION PE RANK 0
U100-F
U102-C 10105 14A9
+JW0 CONVERSION ERROR RANK 2 A118 JW0CVE
39 DCP +INPUT CONVERSION PE RANK 2
U161-A 10104 41T1
17 H78 +MICROCODE BIT 78 RANK 2
39
22 TIG 5 -T1 CLOCK
U103-A 10131 58U3
7
LED
B119 J02LED 1 +CLR LED

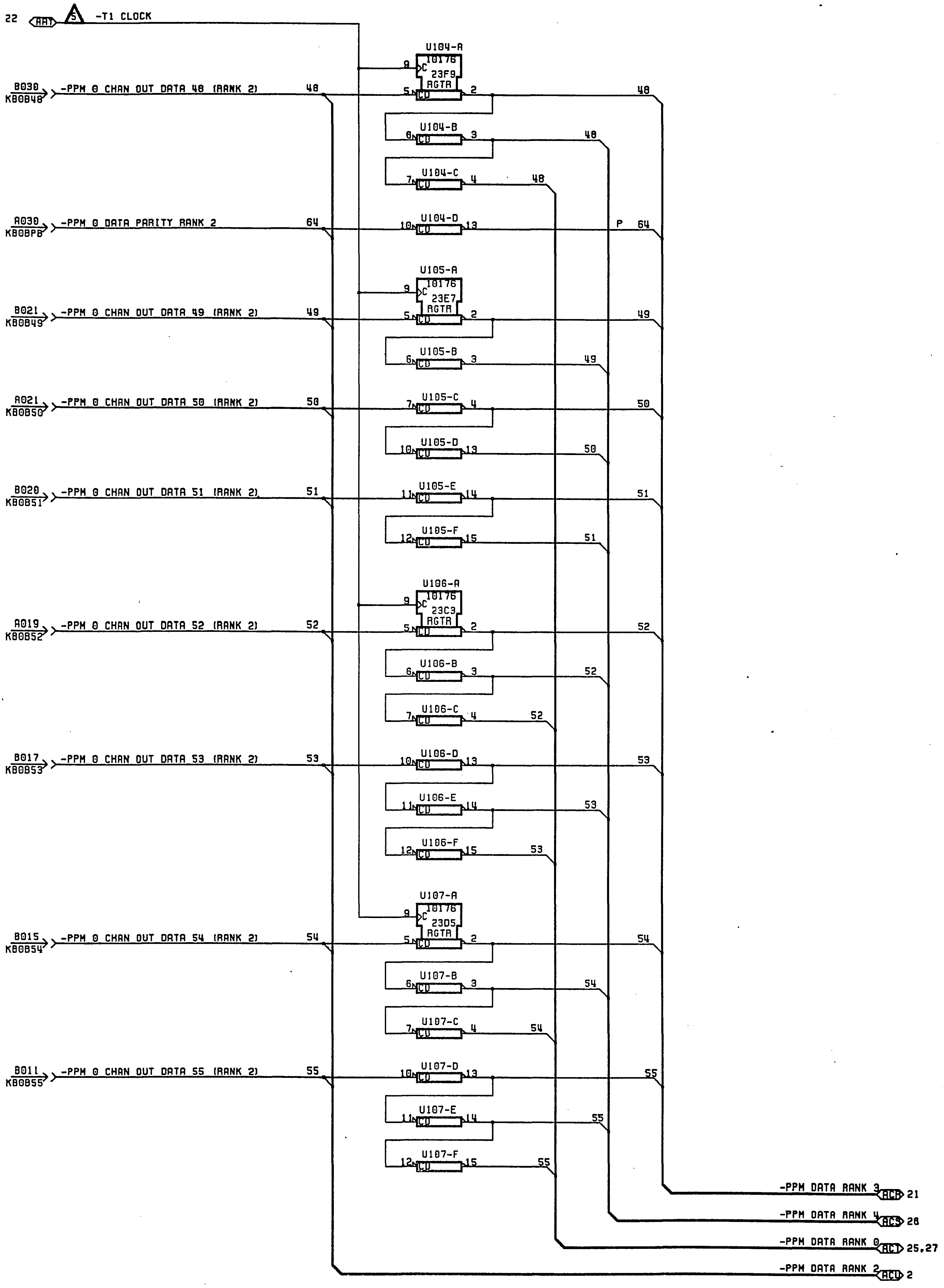
1 DO NOT TERMINATE

5 TOTAL LINE LENGTH 12 INCHES OR LESS

7 TERMINATE LED

CD CONTROL DATA	MICROCODE BOARD MICROCODE PARITY ERROR RANK 0 CM FUNCTION BITS & BOARD ERROR TYPE 1JWH	B	DWG NO. 53575537	DATE 06/04/86	REV D
		SHEET NO. 18	60462210	PAGE JW-18	

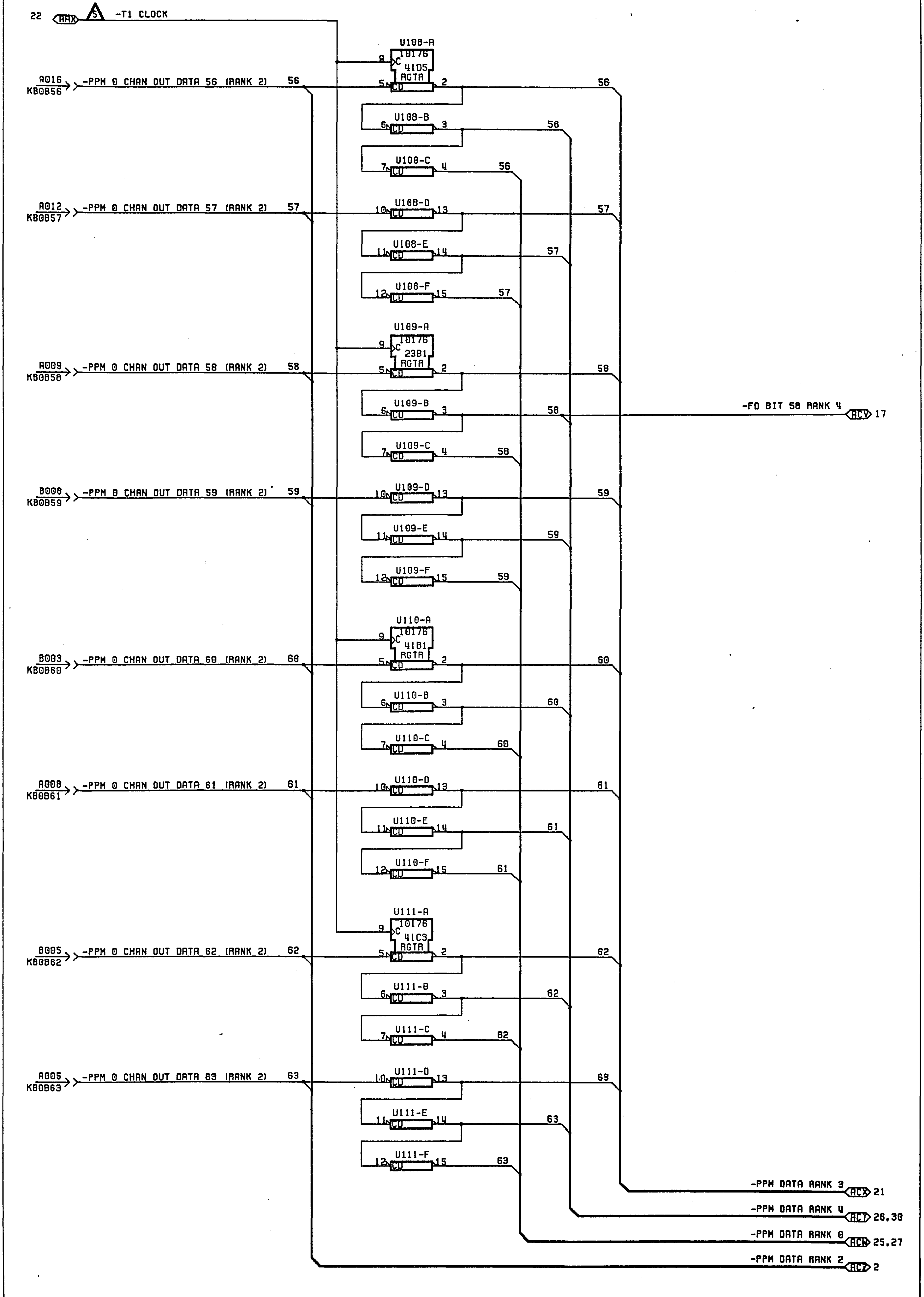
PPM DATA BITS 48-55 & PAR RANKS 2,3,4,0


22 AAT 5 -T1 CLOCK
B030 KB0B48 -PPM 0 CHAN OUT DATA 48 (RANK 2) 48
A030 KB0BPB -PPM 0 DATA PARITY RANK 2 64
B021 KB0B49 -PPM 0 CHAN OUT DATA 49 (RANK 2) 49
A021 KB0B50 -PPM 0 CHAN OUT DATA 50 (RANK 2) 50
B020 KB0B51 -PPM 0 CHAN OUT DATA 51 (RANK 2) 51
A019 KB0B52 -PPM 0 CHAN OUT DATA 52 (RANK 2) 52
B017 KB0B53 -PPM 0 CHAN OUT DATA 53 (RANK 2) 53
B015 KB0B54 -PPM 0 CHAN OUT DATA 54 (RANK 2) 54
B011 KB0B55 -PPM 0 CHAN OUT DATA 55 (RANK 2) 55
U104-A 10176 23F9 AGTA
U104-B
U104-C
U104-D
U105-A 10176 23E7 AGTA
U105-B
U105-C
U105-D
U105-E
U105-F
U106-A 10176 23C3 AGTA
U106-B
U106-C
U106-D
U106-E
U106-F
U107-A 10176 23D5 AGTA
U107-B
U107-C
U107-D
U107-E
U107-F
C
CD
P 64
-PPM DATA RANK 3 ACB 21
-PPM DATA RANK 4 ACS 28
-PPM DATA RANK 0 ACT 25,27
-PPM DATA RANK 2 ACD 2

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD PPM DATA BITS 48-55 & P RANKS 2,3,4,0 TYPE 1JNH	B	DWG NO. 53575537	DATE 11/01/85	REV A
	N	SHEET NO. 19	60462210	PAGE JH-19	

PPM DATA BITS 56-63 RANKS 2,3,4,0

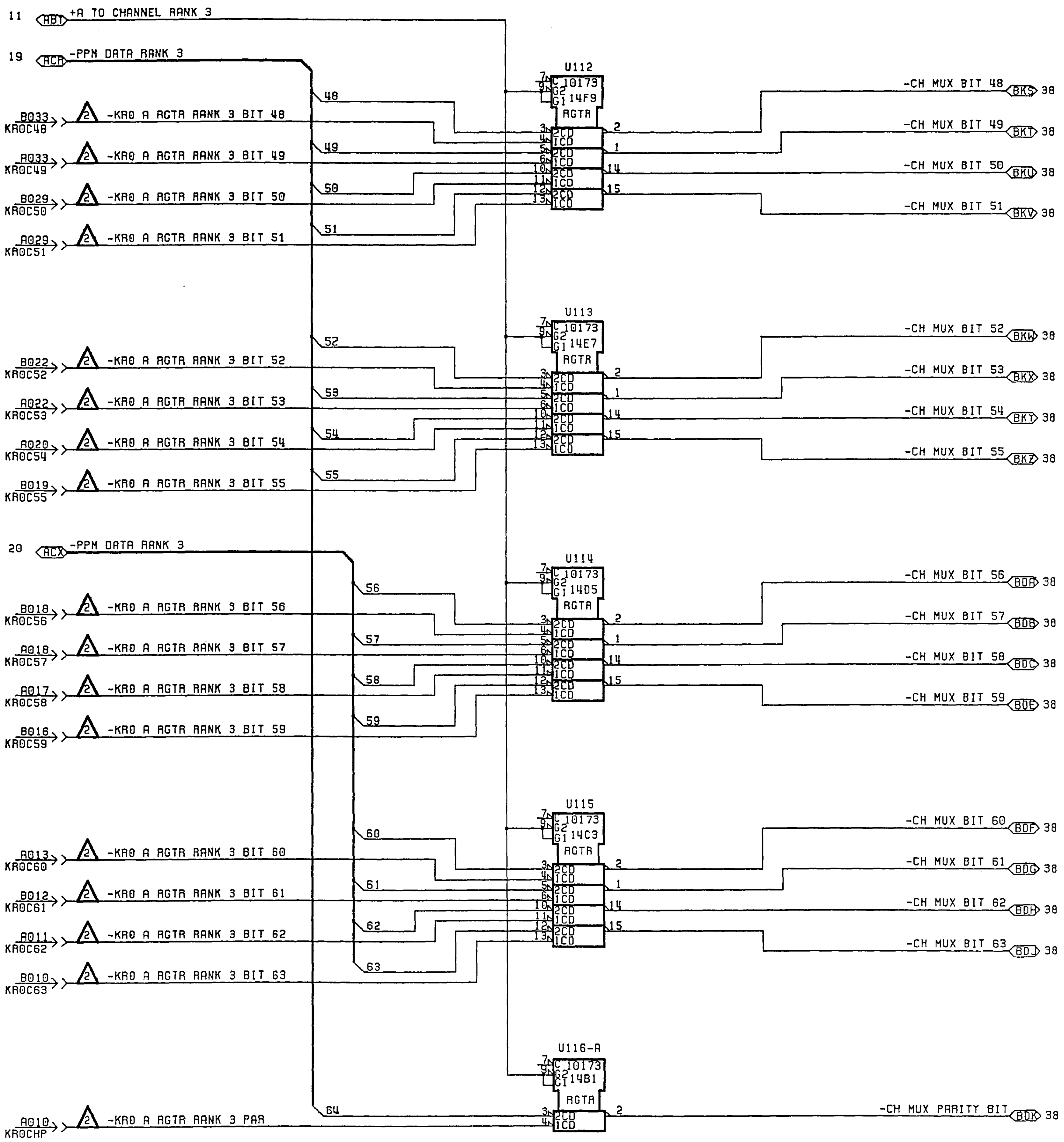

22 AAX 5 -T1 CLOCK
A016 KB0B56 -PPM 0 CHAN OUT DATA 56 (RANK 2) 56
A012 KB0B57 -PPM 0 CHAN OUT DATA 57 (RANK 2) 57
A009 KB0B58 -PPM 0 CHAN OUT DATA 58 (RANK 2) 58
B008 KB0B59 -PPM 0 CHAN OUT DATA 59 (RANK 2) 59
B003 KB0B60 -PPM 0 CHAN OUT DATA 60 (RANK 2) 60
A008 KB0B61 -PPM 0 CHAN OUT DATA 61 (RANK 2) 61
B005 KB0B62 -PPM 0 CHAN OUT DATA 62 (RANK 2) 62
A005 KB0B63 -PPM 0 CHAN OUT DATA 63 (RANK 2) 63
U108-A 10176 41D5 RGTR C CD 9 5 2
U108-B 6 3
U108-C 7 4
U108-D 10 13
U108-E 11 14
U108-F 12 15
U109-A 10176 23B1 RGTR C CD 9 5 2
U109-B 6 3
U109-C 7 4
U109-D 10 13
U109-E 11 14
U109-F 12 15
U110-A 10176 41B1 RGTR C CD 9 5 2
U110-B 6 3
U110-C 7 4
U110-D 10 13
U110-E 11 14
U110-F 12 15
U111-A 10176 41C3 RGTR C CD 9 5 2
U111-B 6 3
U111-C 7 4
U111-D 10 13
U111-E 11 14
U111-F 12 15
-FD BIT 58 RANK 4 ACV 17
-PPM DATA RANK 3 ACY 21
-PPM DATA RANK 4 ACT 26,30
-PPM DATA RANK 0 ACH 25,27
-PPM DATA RANK 2 AC2 2

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA
MICROCODE BOARD
PPM DATA BITS 56-63
RANKS 2,3,4,0
TYPE 1JWH

	DWG NO.	DATE	REV
B	53575537	11/01/85	A
SHEET NO. 28	60462210	PAGE JH-28	

CHAN INPUT MUX

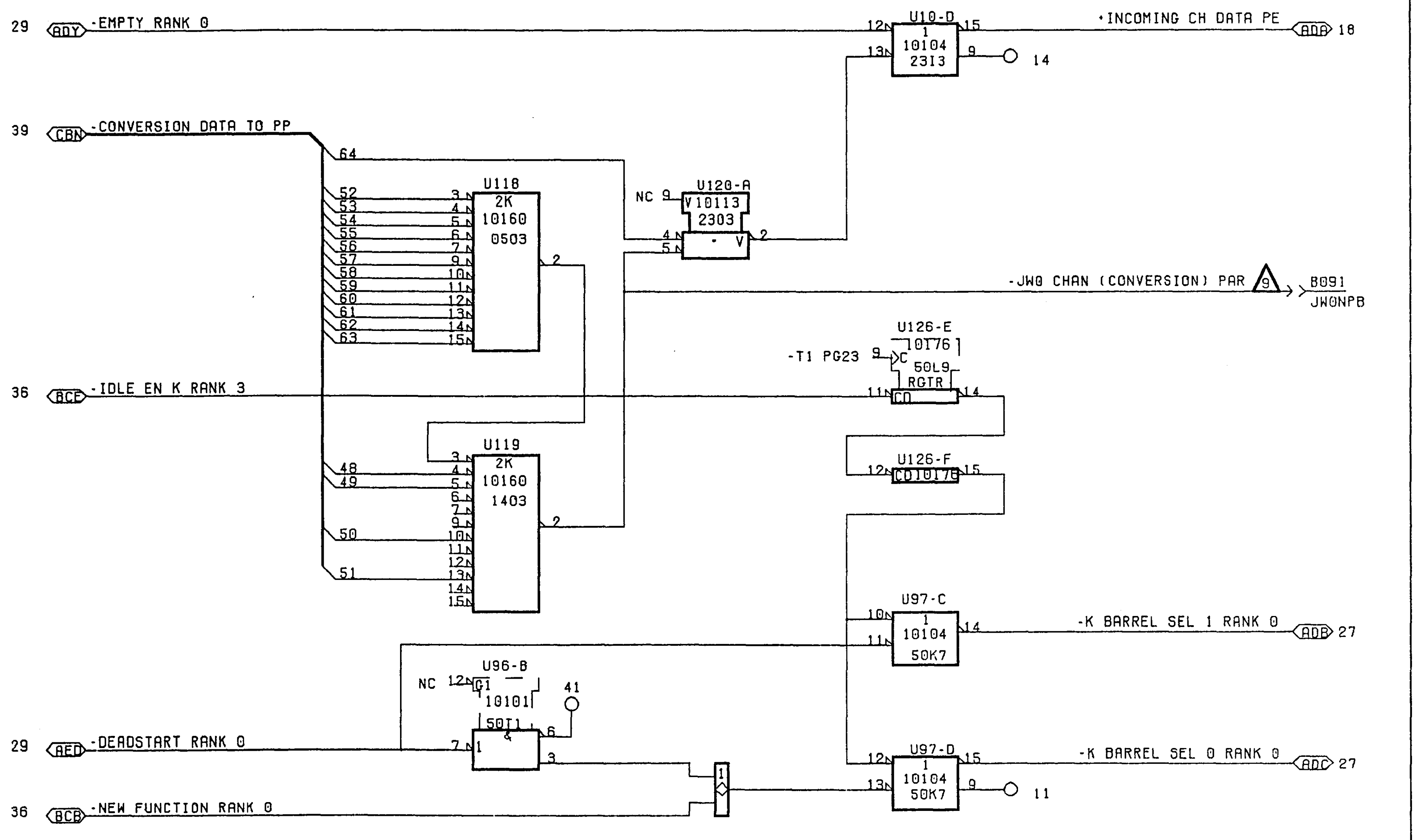

11 ABT +A TO CHANNEL RANK 3
19 ACA -PPM DATA RANK 3
B033 KA0C48 -KA0 A AGTR RANK 3 BIT 48
A033 KA0C49 -KA0 A AGTR RANK 3 BIT 49
B029 KA0C50 -KA0 A AGTR RANK 3 BIT 50
A029 KA0C51 -KA0 A AGTR RANK 3 BIT 51
B022 KA0C52 -KA0 A AGTR RANK 3 BIT 52
A022 KA0C53 -KA0 A AGTR RANK 3 BIT 53
A020 KA0C54 -KA0 A AGTR RANK 3 BIT 54
B019 KA0C55 -KA0 A AGTR RANK 3 BIT 55
20 ACX -PPM DATA RANK 3
B018 KA0C56 -KA0 A AGTR RANK 3 BIT 56
A018 KA0C57 -KA0 A AGTR RANK 3 BIT 57
A017 KA0C58 -KA0 A AGTR RANK 3 BIT 58
B016 KA0C59 -KA0 A AGTR RANK 3 BIT 59
A013 KA0C60 -KA0 A AGTR RANK 3 BIT 60
B012 KA0C61 -KA0 A AGTR RANK 3 BIT 61
A011 KA0C62 -KA0 A AGTR RANK 3 BIT 62
B010 KA0C63 -KA0 A AGTR RANK 3 BIT 63
A010 KA0CHP -KA0 A AGTR RANK 3 PAR
48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64
U112 10173 14F9 AGTR
U113 10173 14E7 AGTR
U114 10173 14D5 AGTR
U115 10173 14C3 AGTR
U116-A 10173 14B1 AGTR
C G2 G1 2CD 1CD
-CH MUX BIT 48 BKS 38
-CH MUX BIT 49 BKT 38
-CH MUX BIT 50 BKU 38
-CH MUX BIT 51 BKV 38
-CH MUX BIT 52 BKW 38
-CH MUX BIT 53 BKX 38
-CH MUX BIT 54 BKY 38
-CH MUX BIT 55 BKZ 38
-CH MUX BIT 56 BDA 38
-CH MUX BIT 57 BDB 38
-CH MUX BIT 58 BDC 38
-CH MUX BIT 59 BDE 38
-CH MUX BIT 60 BDF 38
-CH MUX BIT 61 BDG 38
-CH MUX BIT 62 BDH 38
-CH MUX BIT 63 BDJ 38
-CH MUX PARITY BIT BDK 38

CHAN INPUT MUX	
0	A AGTR RANK 3
1	PPM BITS RANK 3

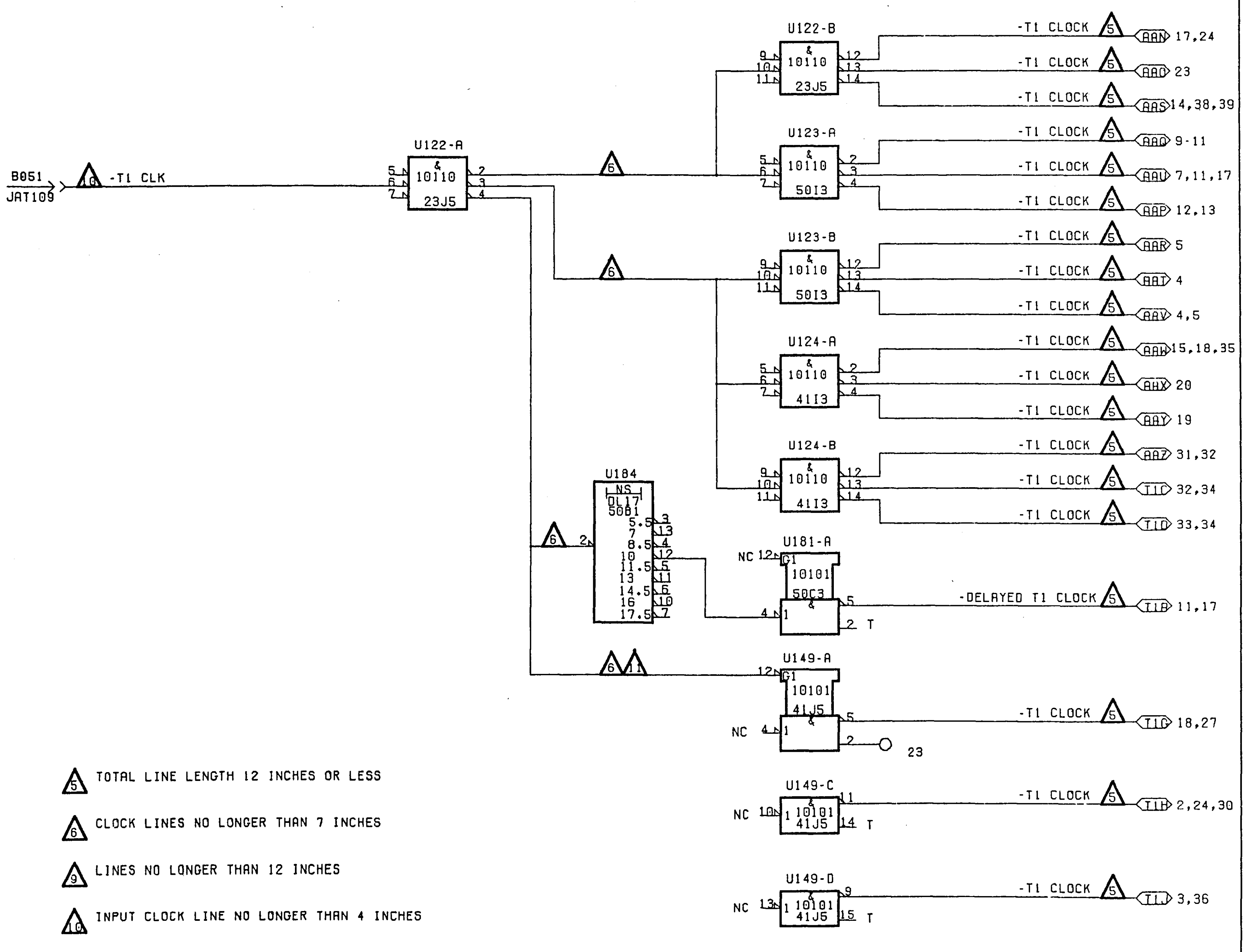
2 NOT TERMINATED AND LINES NO LONGER THAN 12 INCHES

CONTROL DATA	MICROCODE BOARD CHANNEL INPUT MUX TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		N	SHEET NO. 21	60462210	PAGE JW-21

K BARREL ENBLS



T1 CLK F/0



△5 TOTAL LINE LENGTH 12 INCHES OR LESS

△6 CLOCK LINES NO LONGER THAN 7 INCHES

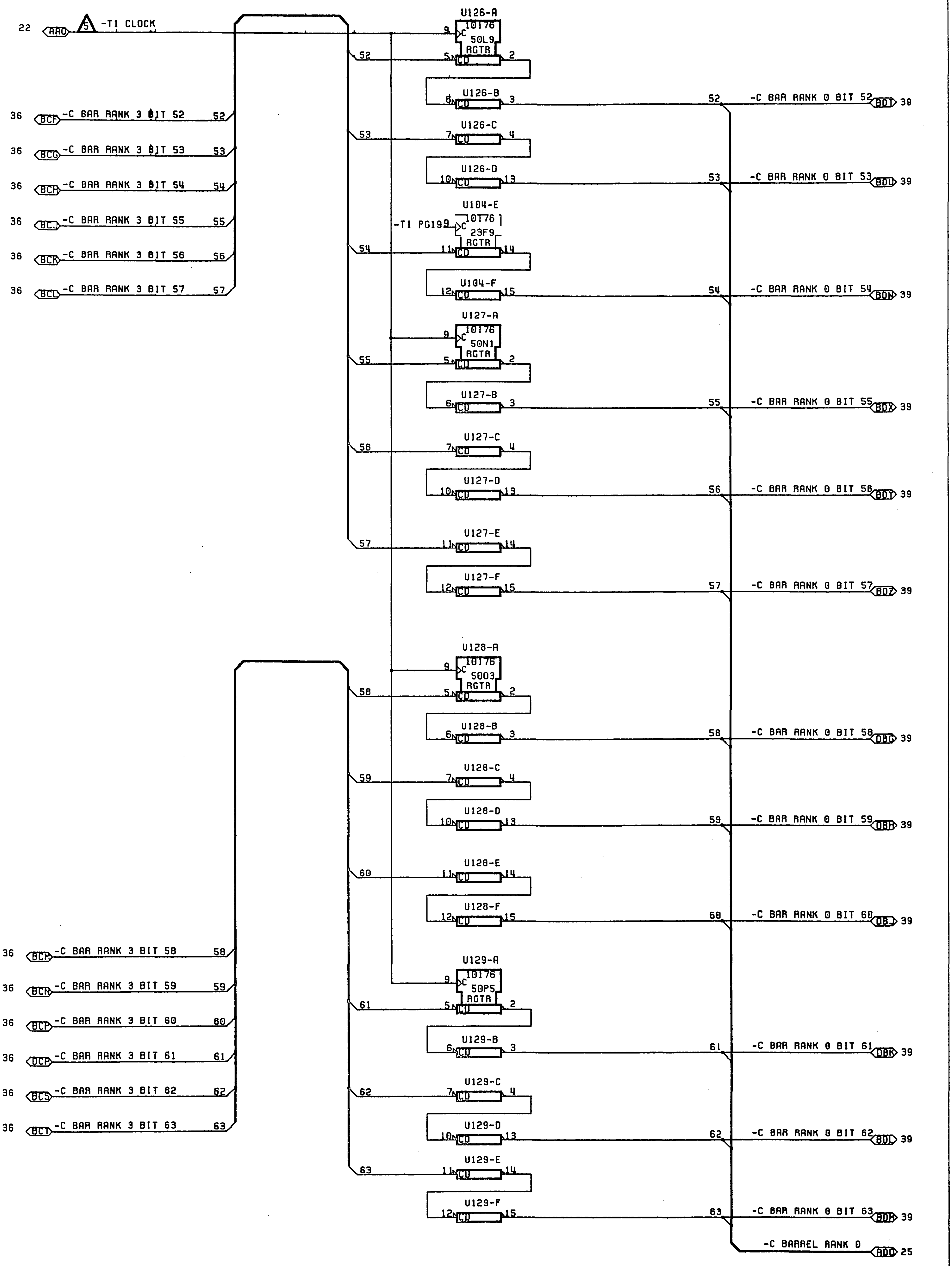
△9 LINES NO LONGER THAN 12 INCHES

△10 INPUT CLOCK LINE NO LONGER THAN 4 INCHES

△11 THIS NET IS TERMINATED ONLY AT 50B1-07

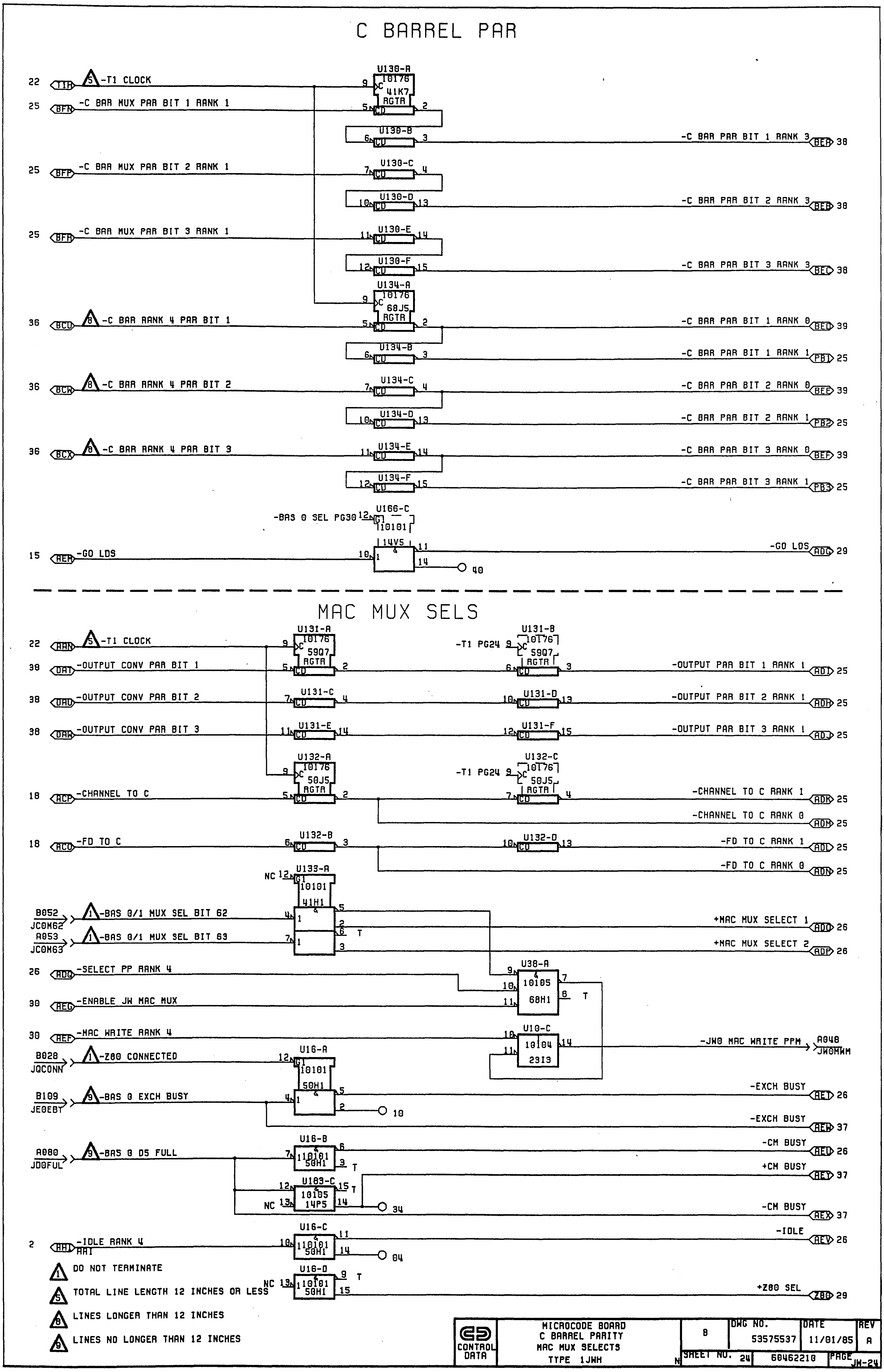
CONTROL DATA	MICROCODE BOARD K BARREL ENABLES T1 CLOCK FANOUT TYPE 1JWH	B	DWG NO. 53575537	DATE 06/14/88	REV F
			SHEET NO. 22	60462210	PAGE JW-22

C BARREL BITS 52-63 RANKS 4 & 0


22 AAO 5 -T1 CLOCK
36 BCF -C BAR RANK 3 BIT 52 52
36 BCG -C BAR RANK 3 BIT 53 53
36 BCH -C BAR RANK 3 BIT 54 54
36 BCJ -C BAR RANK 3 BIT 55 55
36 BCK -C BAR RANK 3 BIT 56 56
36 BCL -C BAR RANK 3 BIT 57 57
36 BCM -C BAR RANK 3 BIT 58 58
36 BCN -C BAR RANK 3 BIT 59 59
36 BCP -C BAR RANK 3 BIT 60 60
36 DCR -C BAR RANK 3 BIT 61 61
36 BCS -C BAR RANK 3 BIT 62 62
36 BCT -C BAR RANK 3 BIT 63 63
U126-A 10176 50L9 RGTR
U126-B
U126-C
U126-D
U104-E 10176 23F9 RGTR
-T1 PG19
U104-F
U127-A 10176 50N1 RGTR
U127-B
U127-C
U127-D
U127-E
U127-F
U128-A 10176 5003 RGTR
U128-B
U128-C
U128-D
U128-E
U128-F
U129-A 10176 50P5 RGTR
U129-B
U129-C
U129-D
U129-E
U129-F
C
CD
52 -C BAR RANK 0 BIT 52 BDT 39
53 -C BAR RANK 0 BIT 53 BDU 39
54 -C BAR RANK 0 BIT 54 BDW 39
55 -C BAR RANK 0 BIT 55 BDX 39
56 -C BAR RANK 0 BIT 56 BDY 39
57 -C BAR RANK 0 BIT 57 BDZ 39
58 -C BAR RANK 0 BIT 58 DBG 39
59 -C BAR RANK 0 BIT 59 DBH 39
60 -C BAR RANK 0 BIT 60 DBJ 39
61 -C BAR RANK 0 BIT 61 DBK 39
62 -C BAR RANK 0 BIT 62 BDL 39
63 -C BAR RANK 0 BIT 63 BDM 39
-C BARREL RANK 0 ADD 25

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD C BARREL BITS 52-63 TYPE 1JWH	B	DWG NO. 53575537	DATE 06/04/86	REV D
			SHEET NO. 23	60462210	PAGE JW-23


C BARREL PAR
22 TIR 5 -T1 CLOCK
25 BFN -C BAR MUX PAR BIT 1 RANK 1
25 BFP -C BAR MUX PAR BIT 2 RANK 1
25 BFR -C BAR MUX PAR BIT 3 RANK 1
U130-A 10176 41K7 AGTR
U130-B
U130-C
U130-D
U130-E
U130-F
-C BAR PAR BIT 1 RANK 3 BEA 38
-C BAR PAR BIT 2 RANK 3 BEB 38
-C BAR PAR BIT 3 RANK 3 BEC 38
U134-A 10176 68J5 AGTR
36 BCU 8 -C BAR RANK 4 PAR BIT 1
36 BCW 8 -C BAR RANK 4 PAR BIT 2
36 BCX 8 -C BAR RANK 4 PAR BIT 3
U134-B
U134-C
U134-D
U134-E
U134-F
-C BAR PAR BIT 1 RANK 0 BED 39
-C BAR PAR BIT 1 RANK 1 PB1 25
-C BAR PAR BIT 2 RANK 0 BEE 39
-C BAR PAR BIT 2 RANK 1 PB2 25
-C BAR PAR BIT 3 RANK 0 BEF 39
-C BAR PAR BIT 3 RANK 1 PB3 25
-BAS 0 SEL PG30 12 U166-C 10101 14V5
15 AEM -GO LDS
-GO LDS ADG 29
40
MAC MUX SELS
22 AAN 5 -T1 CLOCK
38 DAT -OUTPUT CONV PAR BIT 1
38 DAU -OUTPUT CONV PAR BIT 2
38 DAR -OUTPUT CONV PAR BIT 3
U131-A 10176 5907 AGTR
U131-B 10176 5907 AGTR
-T1 PG24
U131-C
U131-D
U131-E
U131-F
-OUTPUT PAR BIT 1 RANK 1 ADI 25
-OUTPUT PAR BIT 2 RANK 1 ADH 25
-OUTPUT PAR BIT 3 RANK 1 ADJ 25
U132-A 10176 50J5 AGTR
U132-C 10176 50J5 AGTR
-T1 PG24
18 ACP -CHANNEL TO C
-CHANNEL TO C RANK 1 ADK 25
-CHANNEL TO C RANK 0 ADM 25
18 ACO -FD TO C
U132-B
U132-D
-FD TO C RANK 1 ADL 25
-FD TO C RANK 0 ADN 25
NC U133-A 10101 41H1
B052 JC0N62 1 -BAS 0/1 MUX SEL BIT 62
A053 JC0N63 1 -BAS 0/1 MUX SEL BIT 63
+MAC MUX SELECT 1 ADO 26
+MAC MUX SELECT 2 ADP 26
T
26 ADQ -SELECT PP RANK 4
30 AEG -ENABLE JW MAC MUX
30 AEF -MAC WRITE RANK 4
U38-A 10105 68H1
U10-C 10104 2313
-JW0 MAC WRITE PPM A048 JW0MWM
B028 JQCONN 1 -Z80 CONNECTED
B109 JE0EBT 9 -BAS 0 EXCH BUSY
U16-A 10101 50H1
10
-EXCH BUSY AET 26
-EXCH BUSY AEW 37
A080 JD0FUL 9 -BAS 0 DS FULL
U16-B 10101 50H1
U103-C 10105 14P5
NC
34
-CM BUSY AEU 26
+CM BUSY AEY 37
-CM BUSY AEX 37
2 AAI -IDLE RANK 4
U16-C 10101 50H1
04
-IDLE AEV 26
NC U16-D 10101 50H1
+Z80 SEL Z80 29

1 DO NOT TERMINATE

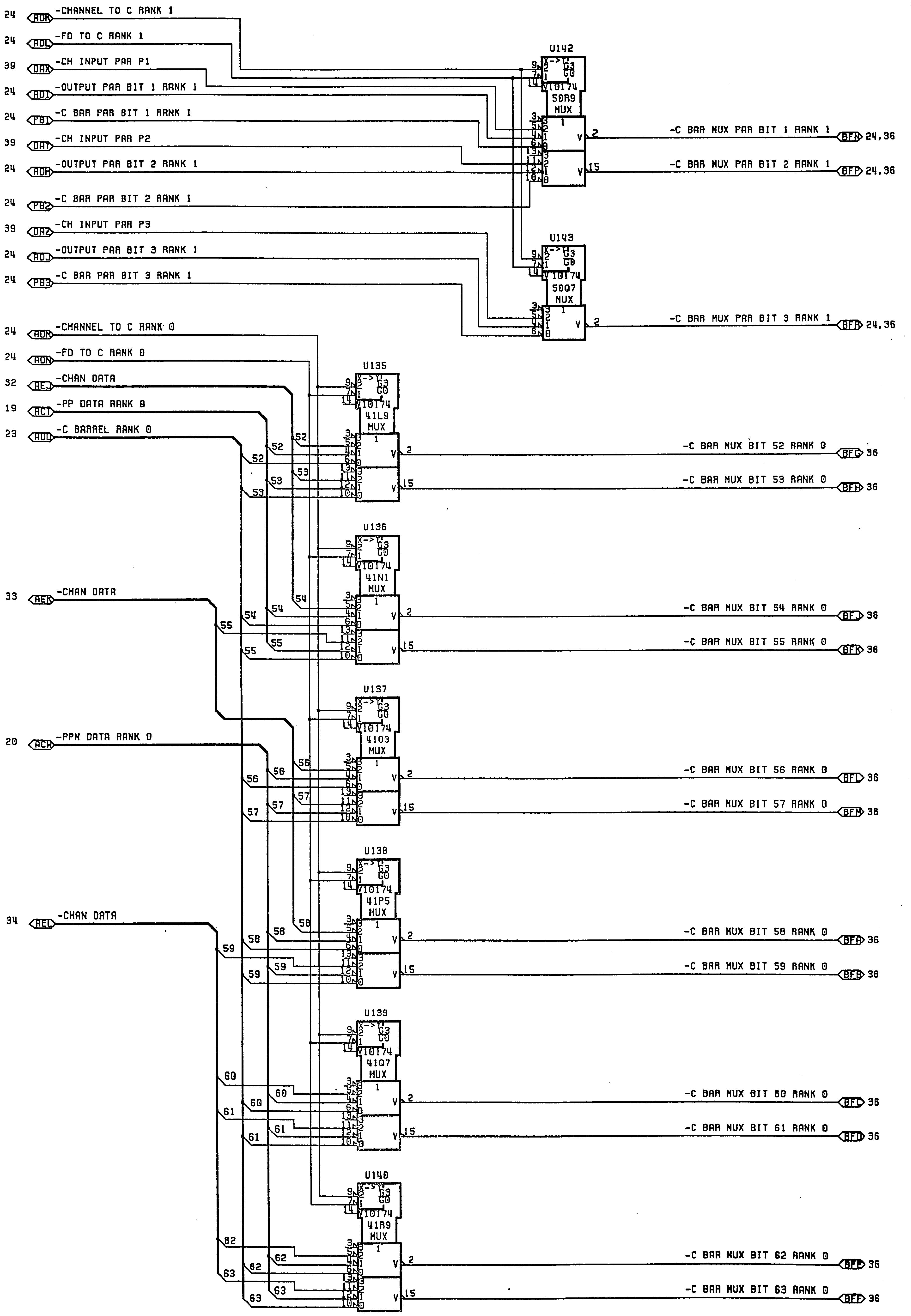
5 TOTAL LINE LENGTH 12 INCHES OR LESS

8 LINES LONGER THAN 12 INCHES

9 LINES NO LONGER THAN 12 INCHES

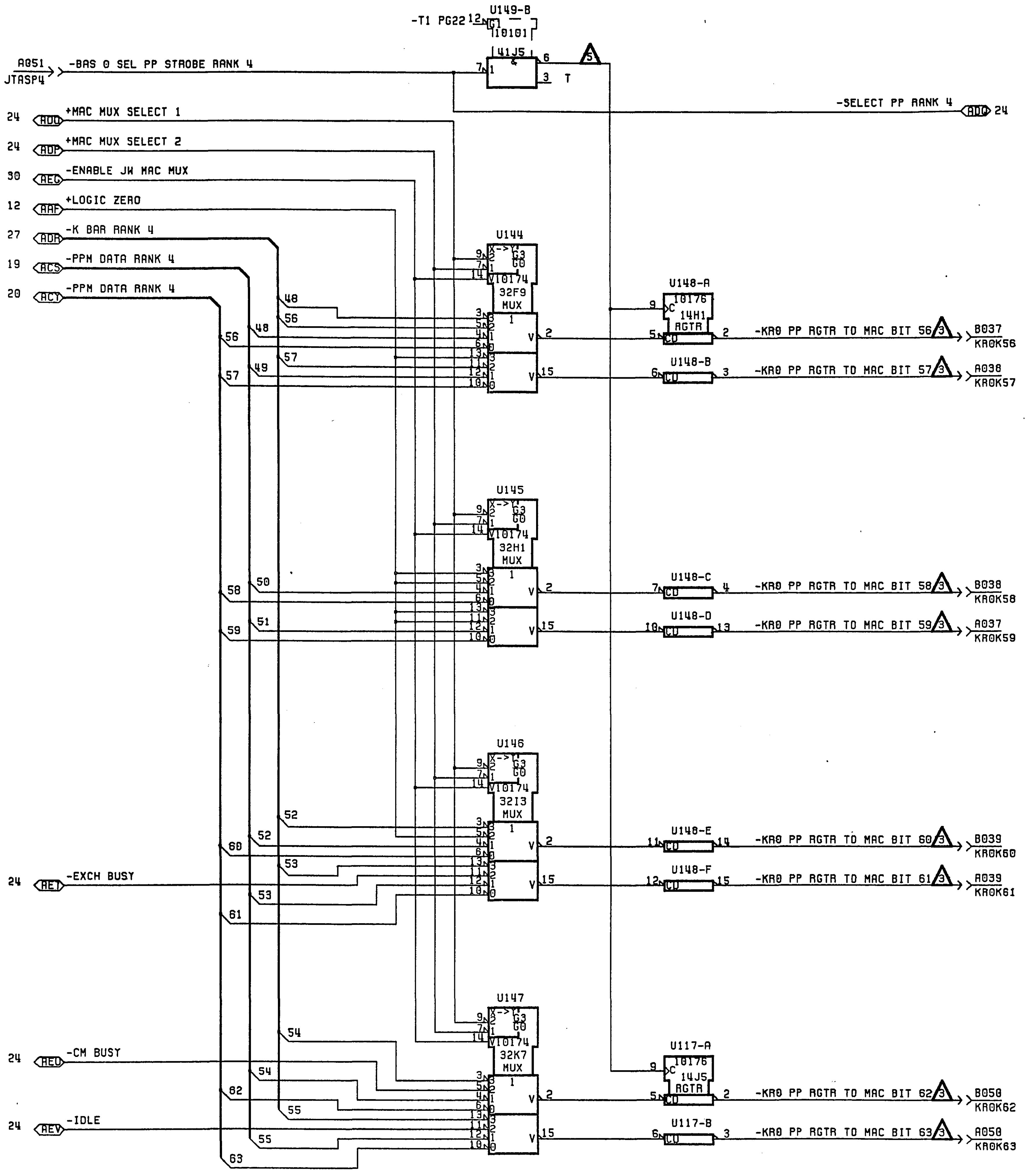
CONTROL DATA	MICROCODE BOARD C BARREL PARITY MAC MUX SELECTS TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		SHEET NO. 24	60462210		PAGE JW-24

C BARREL INPUT MUX


24 ADK -CHANNEL TO C RANK 1
24 ADL -FD TO C RANK 1
39 DAX -CH INPUT PAR P1
24 ADI -OUTPUT PAR BIT 1 RANK 1
24 PB1 -C BAR PAR BIT 1 RANK 1
39 DAY -CH INPUT PAR P2
24 ADH -OUTPUT PAR BIT 2 RANK 1
24 PB2 -C BAR PAR BIT 2 RANK 1
39 DAZ -CH INPUT PAR P3
24 ADJ -OUTPUT PAR BIT 3 RANK 1
24 PB3 -C BAR PAR BIT 3 RANK 1
24 ADM -CHANNEL TO C RANK 0
24 ADN -FD TO C RANK 0
32 AEJ -CHAN DATA
19 ACT -PP DATA RANK 0
23 ADU -C BARREL RANK 0
33 AEK -CHAN DATA
20 ACR -PPM DATA RANK 0
34 AEL -CHAN DATA
U142 10174 50R9 MUX
U143 10174 50Q7 MUX
U135 10174 41L9 MUX
U136 10174 41N1 MUX
U137 10174 41O3 MUX
U138 10174 41P5 MUX
U139 10174 41Q7 MUX
U140 10174 41R9 MUX
X->Y G3 G0
-C BAR MUX PAR BIT 1 RANK 1 BFN 24,36
-C BAR MUX PAR BIT 2 RANK 1 BFP 24,36
-C BAR MUX PAR BIT 3 RANK 1 BFR 24,36
-C BAR MUX BIT 52 RANK 0 BFG 36
-C BAR MUX BIT 53 RANK 0 BFH 36
-C BAR MUX BIT 54 RANK 0 BFJ 36
-C BAR MUX BIT 55 RANK 0 BFK 36
-C BAR MUX BIT 56 RANK 0 BFL 36
-C BAR MUX BIT 57 RANK 0 BFM 36
-C BAR MUX BIT 58 RANK 0 BFA 36
-C BAR MUX BIT 59 RANK 0 BFB 36
-C BAR MUX BIT 60 RANK 0 BFC 36
-C BAR MUX BIT 61 RANK 0 BFD 36
-C BAR MUX BIT 62 RANK 0 BFE 36
-C BAR MUX BIT 63 RANK 0 BFF 36

CONTROL DATA
MICROCODE BOARD
C BARREL INPUT MUX
TYPE 1JWH
B
DWG NO. 53575537
DATE 11/01/85
REV A
SHEET NO. 25
60462210
PAGE JH-25

JW MAC MUX BITS 56-63

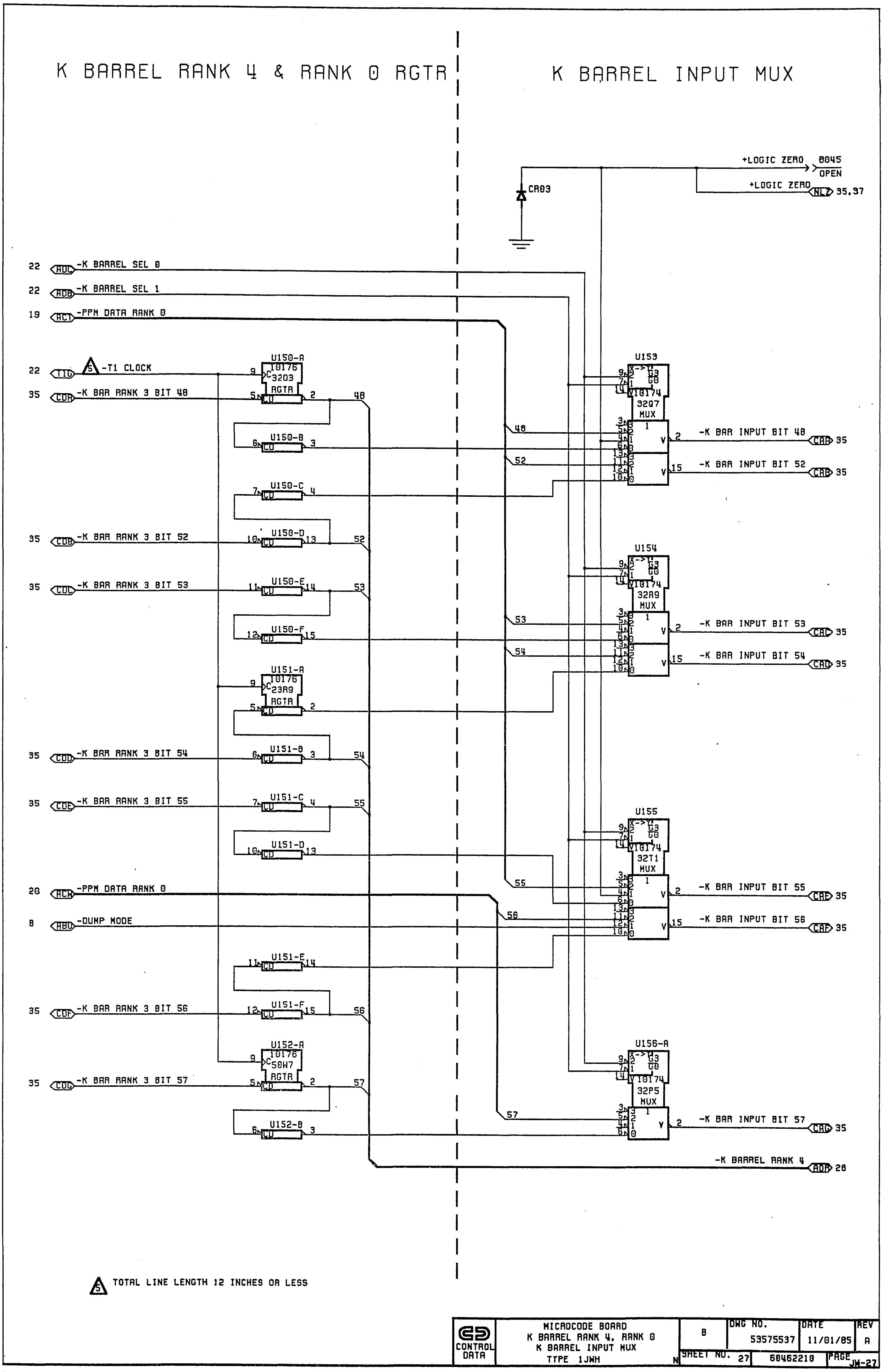


	MUX SELECT CODE
3	K BARREL BITS 48-55
2	K BARREL BITS 56-63
1	PPM DATA BITS 48-55
0	PPM DATA BITS 56-63

△3 LINES NO LONGER THAN 6 INCHES

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD JW MAC MUX BITS 56-63 TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		N	SHEET NO. 26	60462210	PAGE JW-26

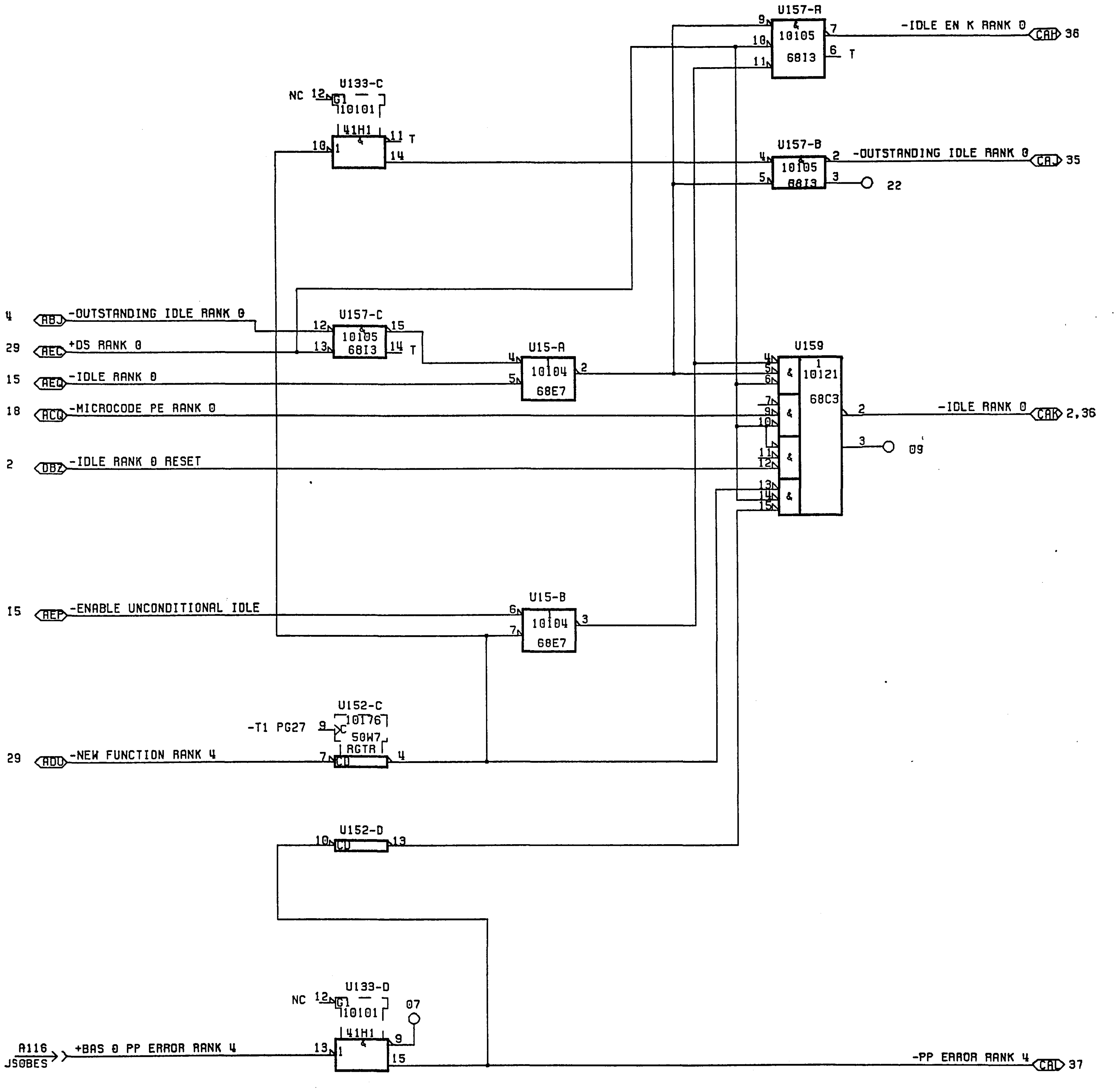

K BARREL RANK 4 & RANK 0 RGTR
K BARREL INPUT MUX
+LOGIC ZERO
8045
OPEN
+LOGIC ZERO
NLZ
35,37
CR03
22 AUC -K BARREL SEL 0
22 ADB -K BARREL SEL 1
19 ACT -PPM DATA RANK 0
22 TIG -T1 CLOCK
5
35 CDA -K BAR RANK 3 BIT 48
35 CDB -K BAR RANK 3 BIT 52
35 CDC -K BAR RANK 3 BIT 53
35 CDD -K BAR RANK 3 BIT 54
35 CDE -K BAR RANK 3 BIT 55
20 ACR -PPM DATA RANK 0
8 ABU -DUMP MODE
35 CDF -K BAR RANK 3 BIT 56
35 CDG -K BAR RANK 3 BIT 57
U150-A
10176
3203
RGTR
U150-B
U150-C
U150-D
U150-E
U150-F
U151-A
10176
23A9
RGTR
U151-B
U151-C
U151-D
U151-E
U151-F
U152-A
10176
50W7
RGTR
U152-B
48
52
53
54
55
56
57
U153
10174
32Q7
MUX
U154
10174
32A9
MUX
U155
10174
32T1
MUX
U156-A
10174
32P5
MUX
-K BAR INPUT BIT 48 CAA 35
-K BAR INPUT BIT 52 CAB 35
-K BAR INPUT BIT 53 CAC 35
-K BAR INPUT BIT 54 CAD 35
-K BAR INPUT BIT 55 CAE 35
-K BAR INPUT BIT 56 CAF 35
-K BAR INPUT BIT 57 CAG 35
-K BARREL RANK 4 ADR 20
5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA

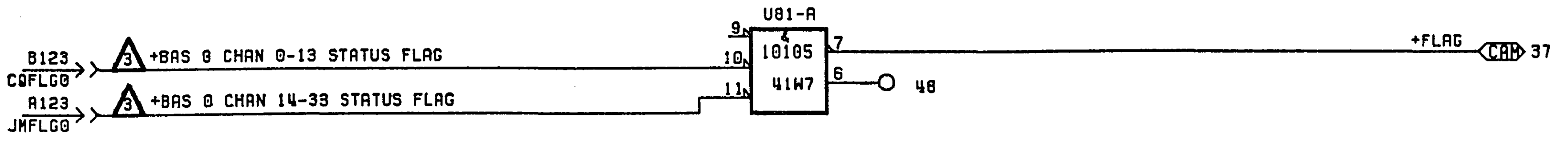
MICROCODE BOARD
K BARREL RANK 4, RANK 0
K BARREL INPUT MUX
TYPE 1JWH

B	DWG NO. 53575537	DATE 11/01/85	REV A
SHEET NO. 27	60462210	PAGE JH-27	

OUTSTANDING IDLE RANK 0

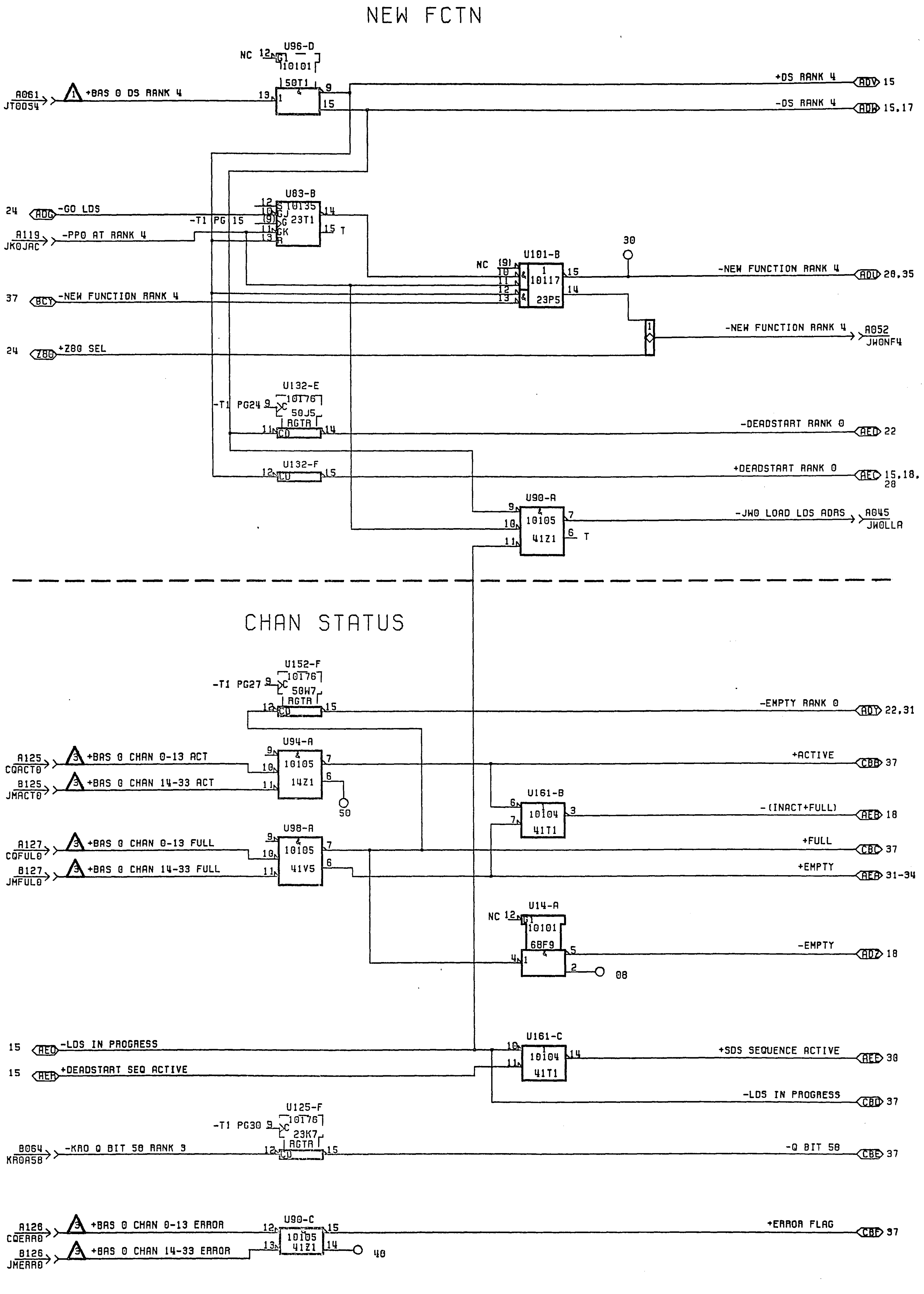


CHAN FLAG



△3 LINES NO LONGER THAN 6 INCHES

CONTROL DATA	MICROCODE BOARD OUTSTANDING IDLE RANK 0 CHANNEL FLAG TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		SHEET NO. 28	60462210	PAGE JW-28	

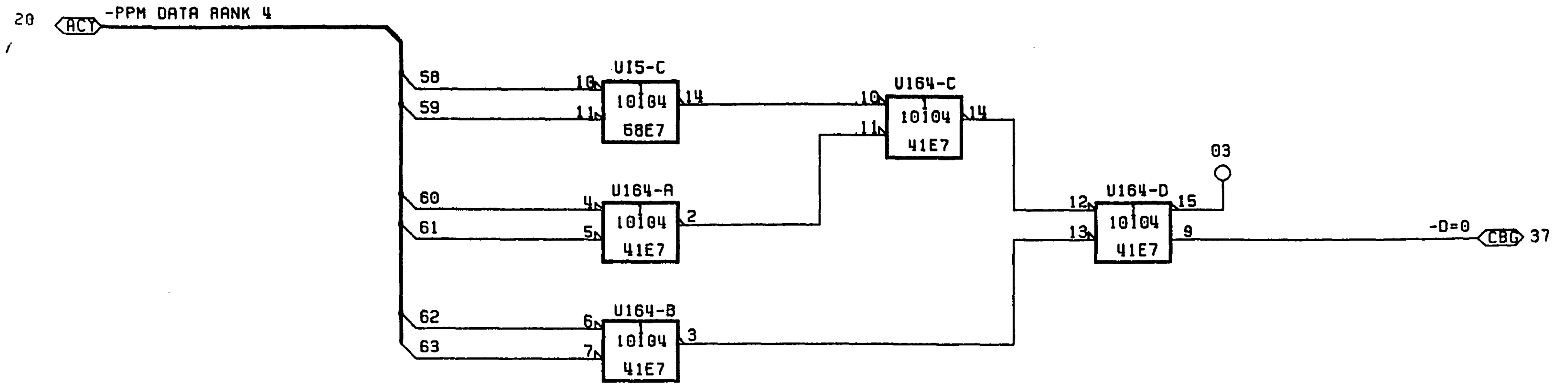


1 NOT TERMINATED

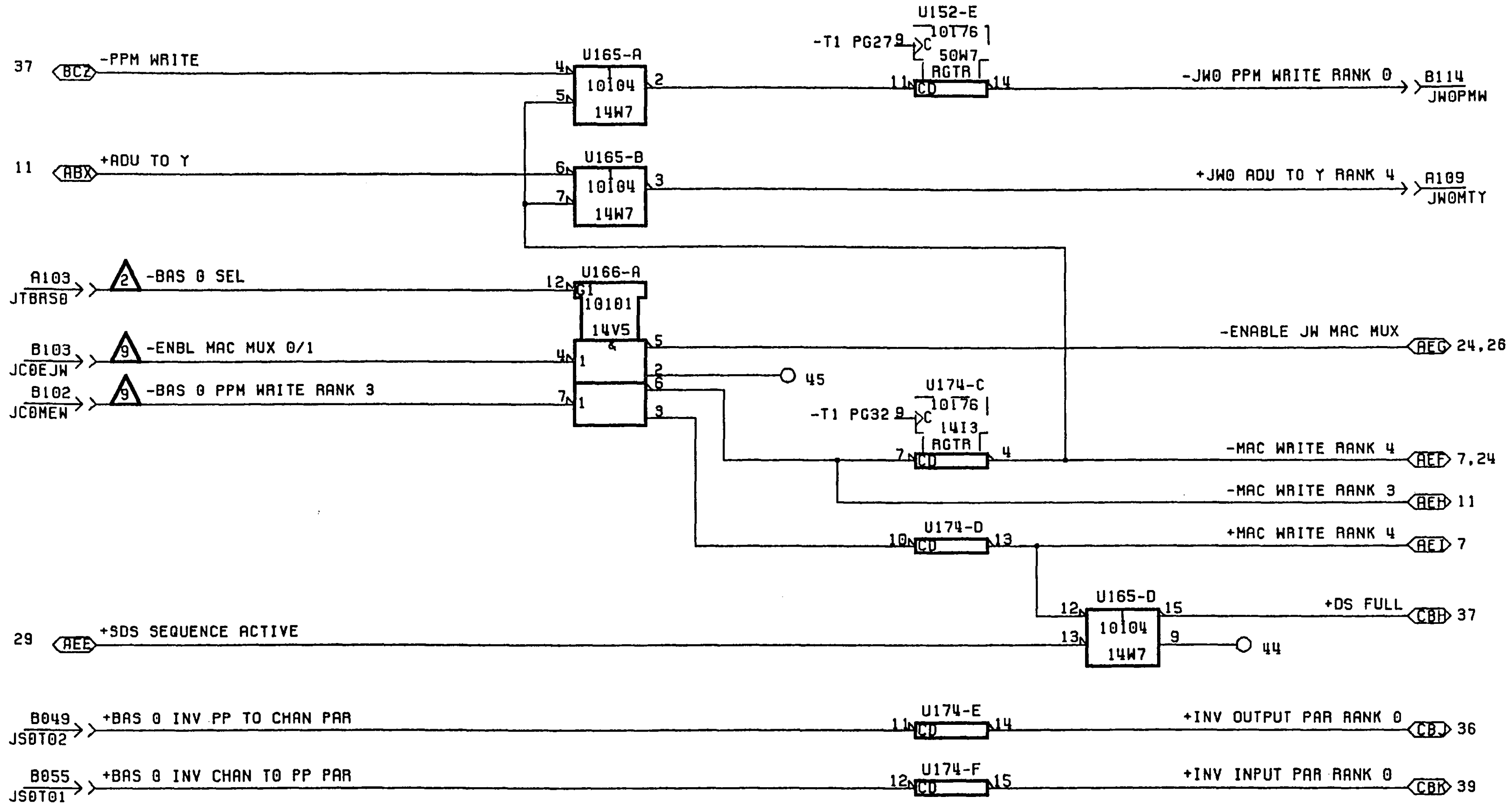
3 LINES NO LONGER THAN 6 INCHES

CONTROL DATA	MICROCODE BOARD NEW FUNCTION CHANNEL STATUS TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
			SHEET NO. 29	60462210	PAGE JW-29

D = 0 CHECK



MAC WRITE



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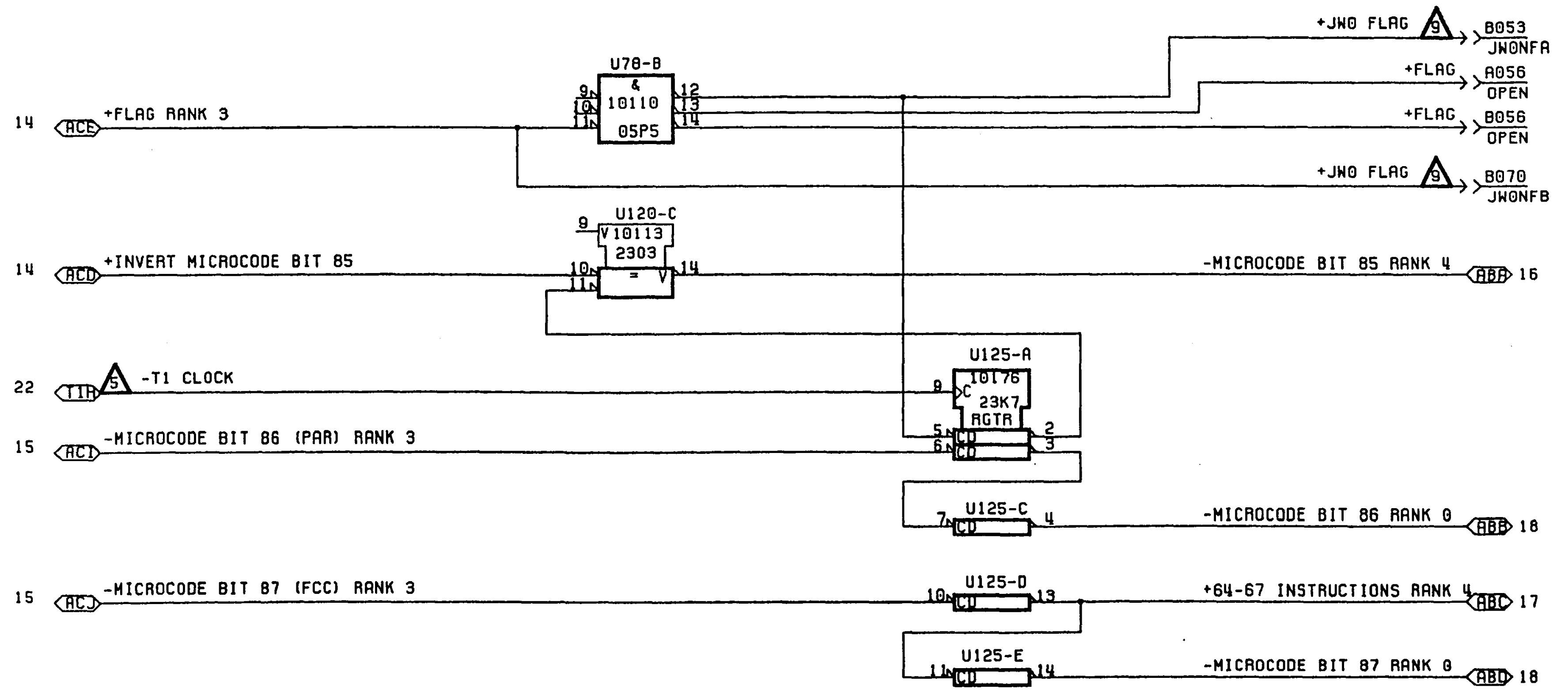
uCODE BITS 85-87



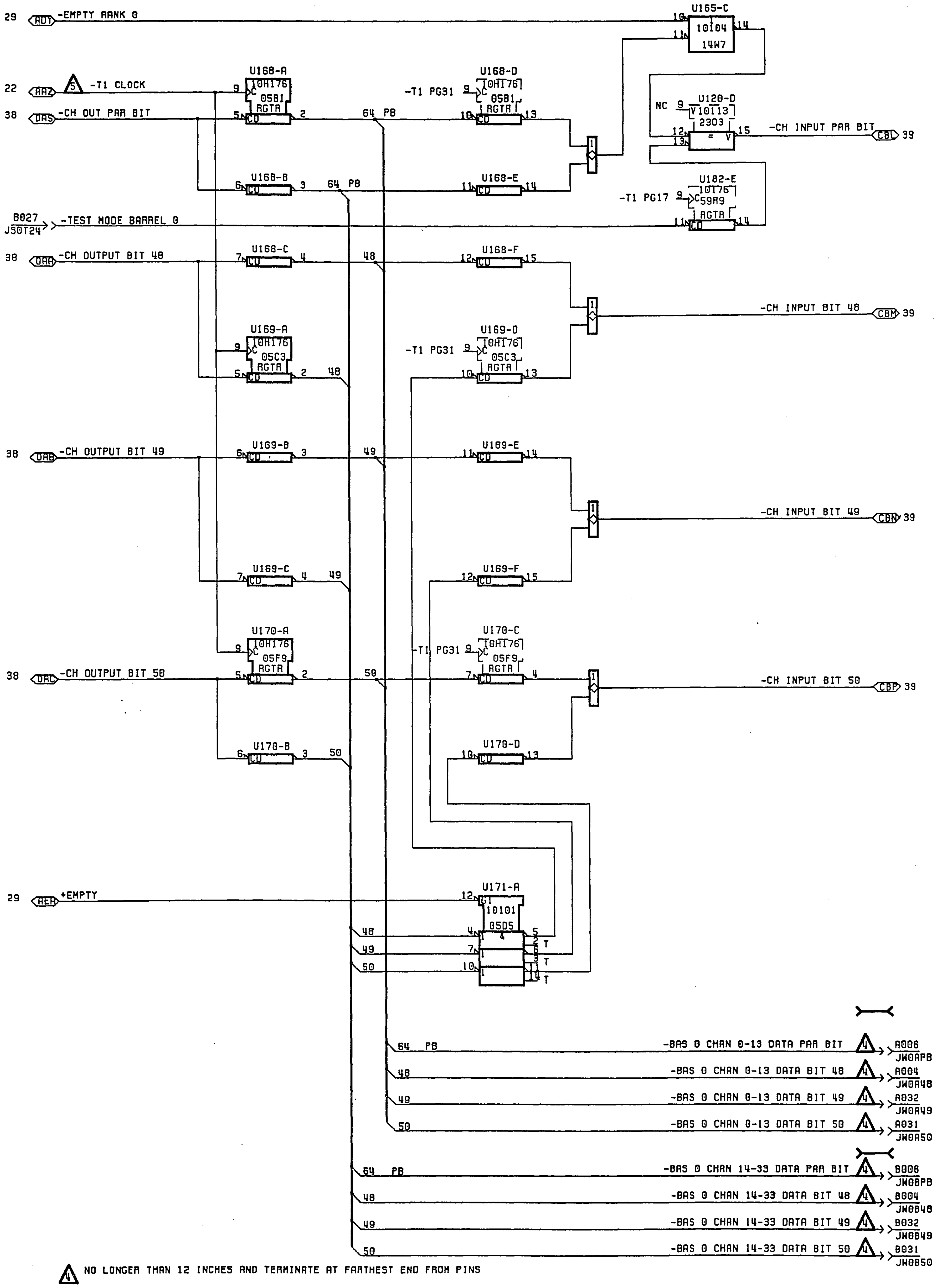
2 NOT TERMINATED AND LINES NO LONGER THAN 12 INCHES

5 TOTAL LINE LENGTH 12 INCHES OR LESS

9 LINES NO LONGER THAN 12 INCHES

CONTROL DATA	MICROCODE BOARD D = 0, MAC WRITE MICROCODE BITS 85-87 TYPE 1JWH	B	DWG NO. 53575537	DATE 06/04/86	REV D
		SHEET NO. 30	60462210	PAGE JW-30	

CHAN DATA RGTR BITS 48-50 & PAR

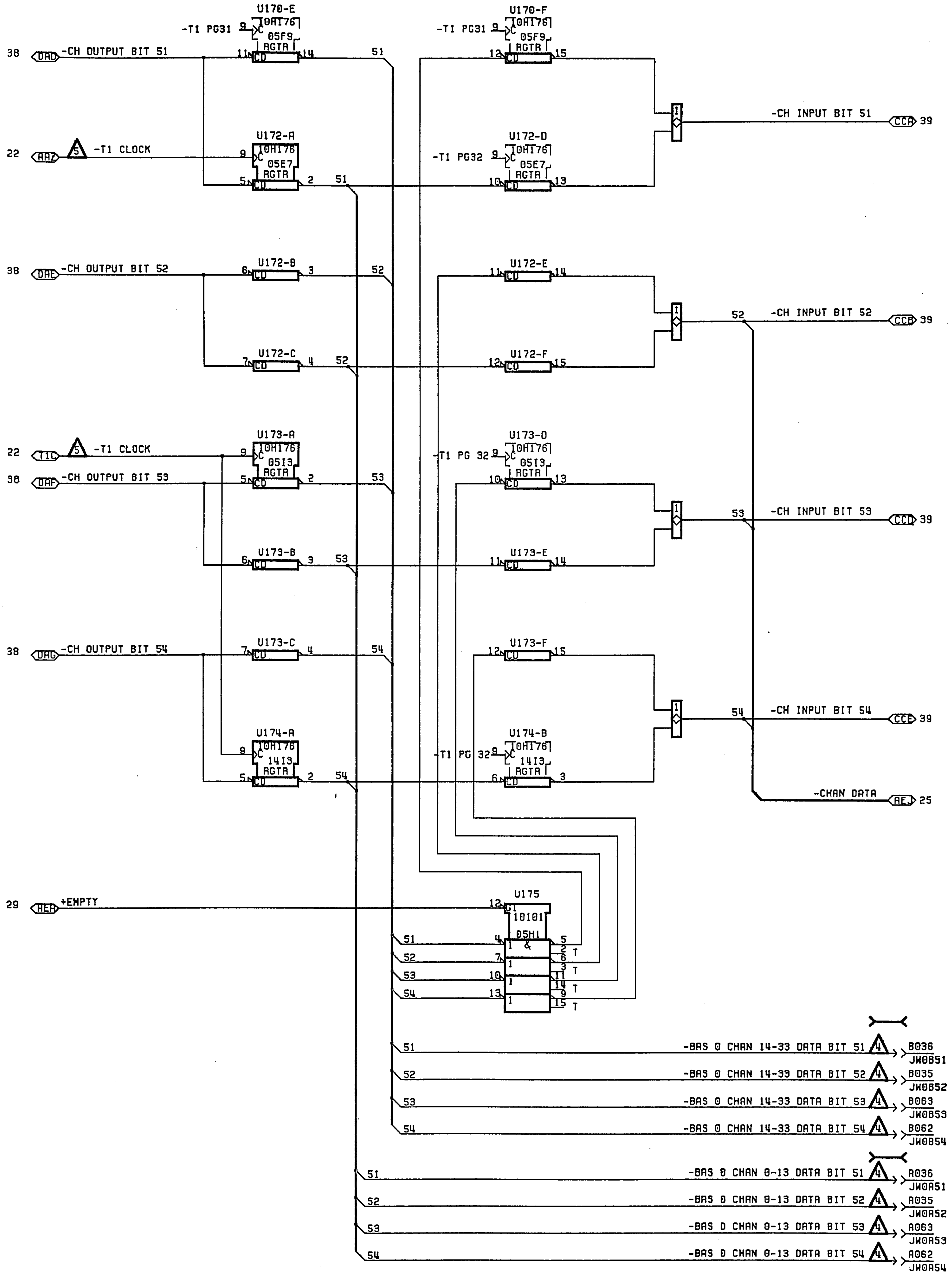


4 NO LONGER THAN 12 INCHES AND TERMINATE AT FARTHEST END FROM PINS

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD CHANNEL DATA BITS 48-50 & PARITY TYPE 1JWH	B	DWG NO. 53575537	DATE 04/09/86	REV A
		SHEET NO. 31	60462210	PAGE JW-31	

CHAN DATA RGTR BITS 51-54

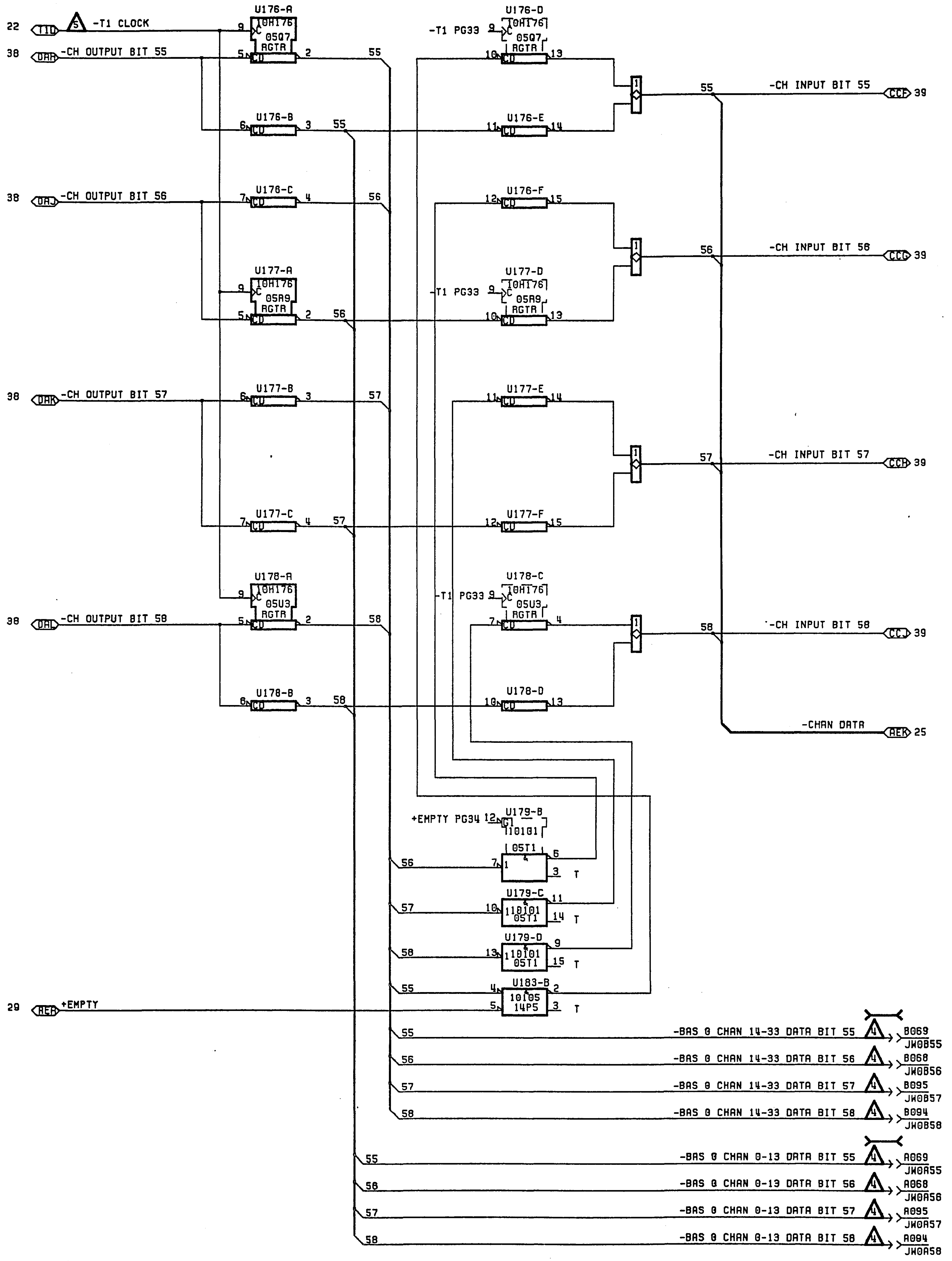


△4 NO LONGER THAN 12 INCHES AND TERMINATE AT FARTHEST END FROM PINS

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD CHANNEL DATA BIT 51-54	B	DWG NO. 53575537	DATE 11/01/85	REV A
	TYPE 1JWH	N	SHEET NO. 32	60462210	PAGE JW-32

CHAN DATA RGTR BITS 55-58

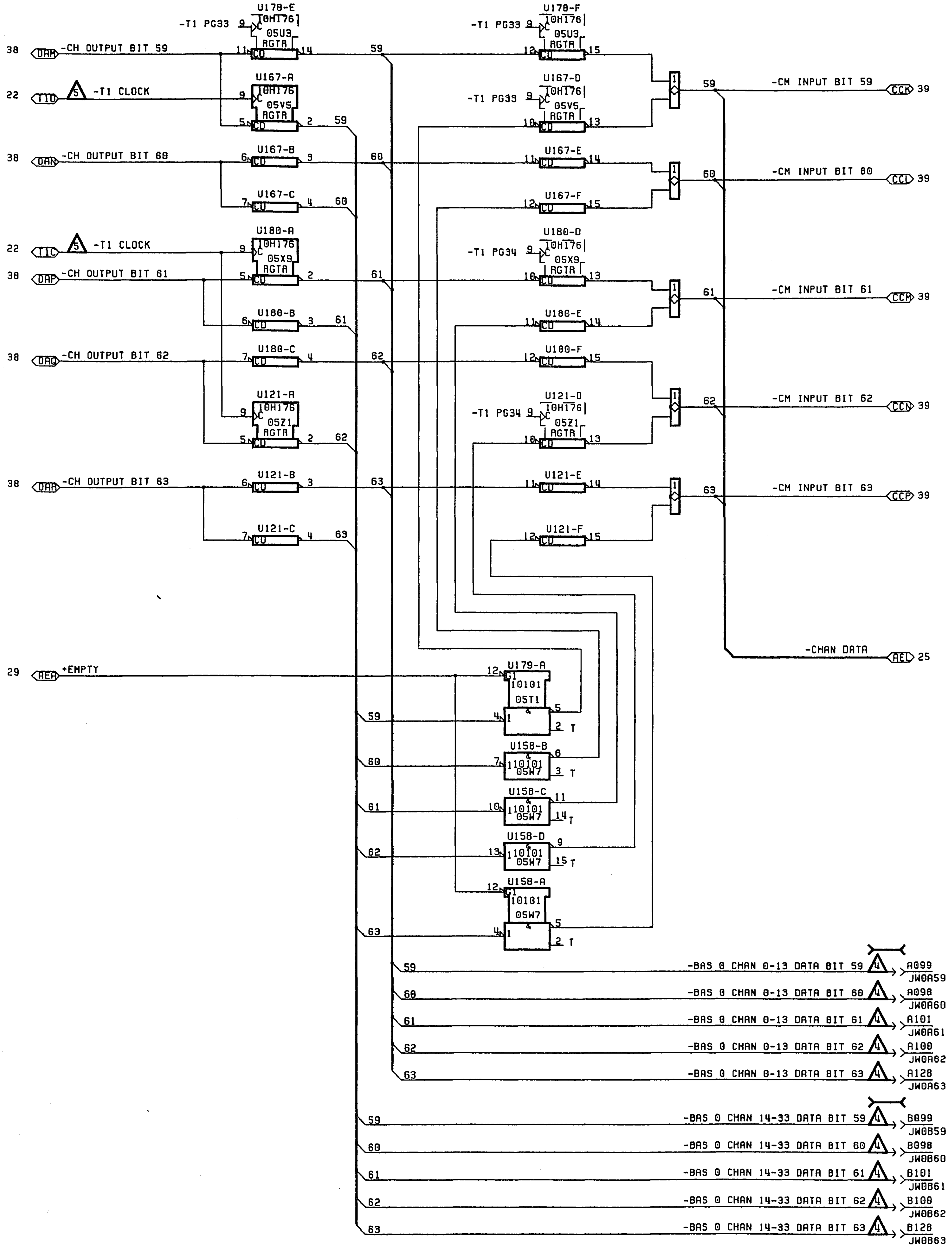


4 NO LONGER THAN 12 INCHES AND TERMINATE AT FARTHEST END FROM PINS

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD CHANNEL DATA BITS 55-58 TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		SHEET NO. 33	60462210	PAGE JW-39	

CHAN DATA RGTR BITS 59-63

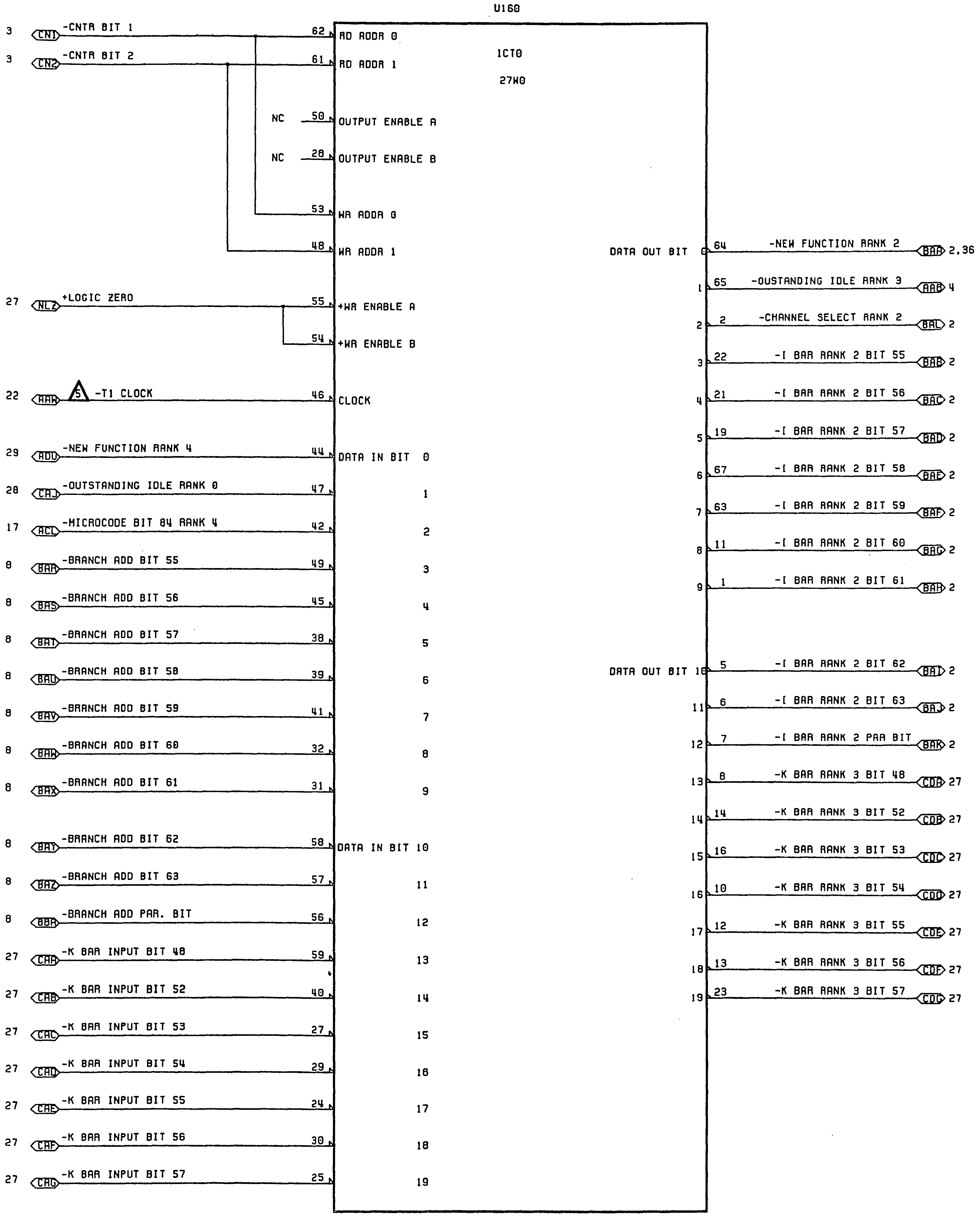


△4 NO LONGER THAN 12 INCHES AND TERMINATE AT FARTHEST END FROM PINS

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD CHANNEL DATA BITS 59-63 TYPE 1JWH	B	DWG NO. 53575537	DATE 06/04/86	REV D
		N	SHEET NO. 34	60462210	PAGE JW-34

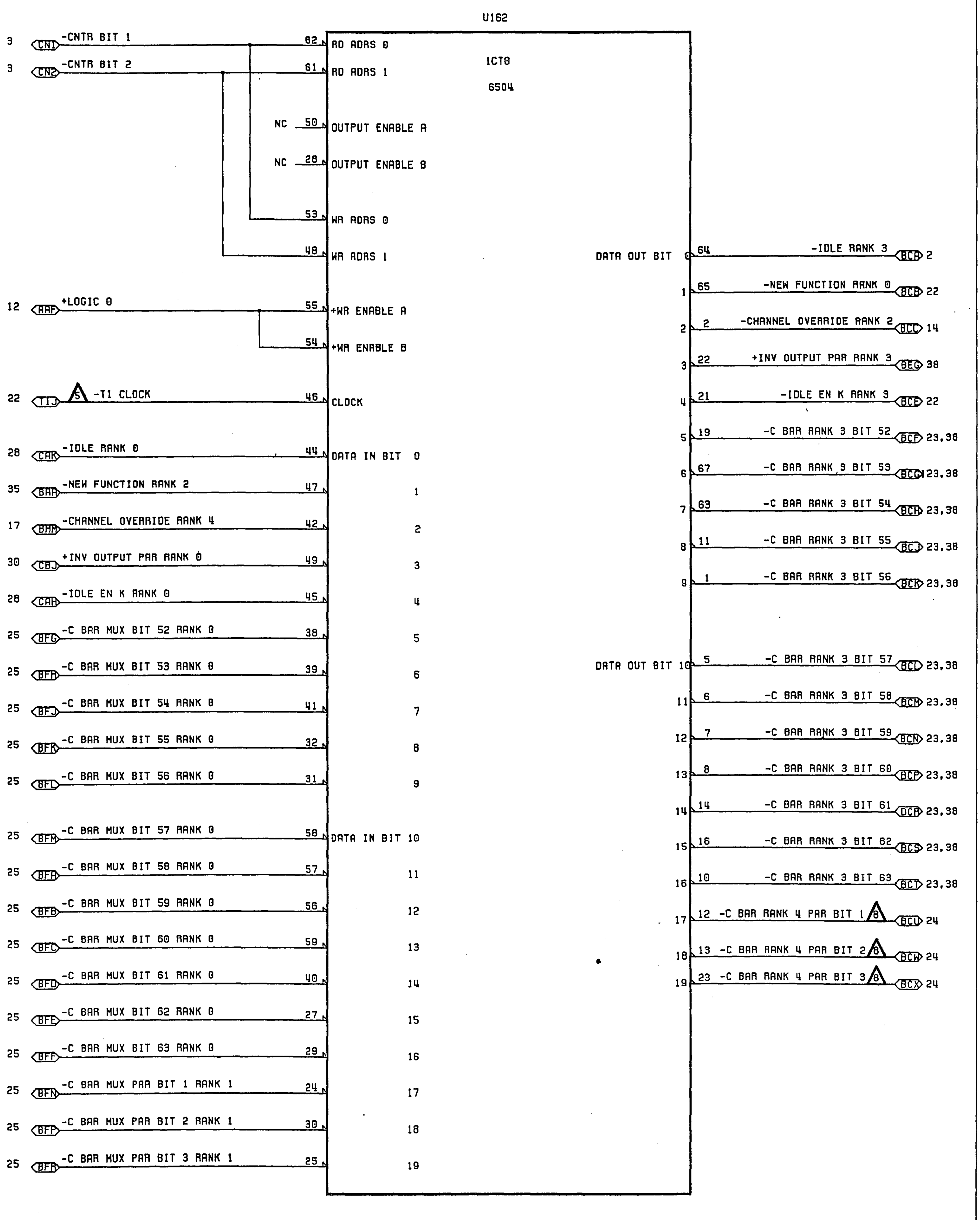
I BARREL RANKS 0-2
K BARREL RANKS 1-3


U160
1CT0
27H0
3 CN1 -CNTR BIT 1 62 RD ADDR 0
3 CN2 -CNTR BIT 2 61 RD ADDR 1
NC 50 OUTPUT ENABLE A
NC 28 OUTPUT ENABLE B
53 WR ADDR 0
48 WR ADDR 1
27 NLZ +LOGIC ZERO 55 +WR ENABLE A
54 +WR ENABLE B
22 AAW 5 -T1 CLOCK 46 CLOCK
29 ADU -NEW FUNCTION RANK 4 44 DATA IN BIT 0
28 CAJ -OUTSTANDING IDLE RANK 0 47 1
17 ACL -MICROCODE BIT 84 RANK 4 42 2
8 BAR -BRANCH ADD BIT 55 49 3
8 BAS -BRANCH ADD BIT 56 45 4
8 BAT -BRANCH ADD BIT 57 38 5
8 BAU -BRANCH ADD BIT 58 39 6
8 BAV -BRANCH ADD BIT 59 41 7
8 BAW -BRANCH ADD BIT 60 32 8
8 BAX -BRANCH ADD BIT 61 31 9
8 BAY -BRANCH ADD BIT 62 58 DATA IN BIT 10
8 BAZ -BRANCH ADD BIT 63 57 11
8 BBA -BRANCH ADD PAR. BIT 56 12
27 CAA -K BAR INPUT BIT 48 59 13
27 CAB -K BAR INPUT BIT 52 40 14
27 CAC -K BAR INPUT BIT 53 27 15
27 CAD -K BAR INPUT BIT 54 29 16
27 CAE -K BAR INPUT BIT 55 24 17
27 CAF -K BAR INPUT BIT 56 30 18
27 CAG -K BAR INPUT BIT 57 25 19
DATA OUT BIT 0 64 -NEW FUNCTION RANK 2 BAA 2,36
1 65 -OUSTANDING IDLE RANK 3 AAB 4
2 2 -CHANNEL SELECT RANK 2 BAL 2
3 22 -I BAR RANK 2 BIT 55 BAB 2
4 21 -I BAR RANK 2 BIT 56 BAC 2
5 19 -I BAR RANK 2 BIT 57 BAD 2
6 67 -I BAR RANK 2 BIT 58 BAE 2
7 63 -I BAR RANK 2 BIT 59 BAF 2
8 11 -I BAR RANK 2 BIT 60 BAG 2
9 1 -I BAR RANK 2 BIT 61 BAH 2
DATA OUT BIT 10 5 -I BAR RANK 2 BIT 62 BAI 2
11 6 -I BAR RANK 2 BIT 63 BAJ 2
12 7 -I BAR RANK 2 PAR BIT BAK 2
13 8 -K BAR RANK 3 BIT 48 CDA 27
14 14 -K BAR RANK 3 BIT 52 CDB 27
15 16 -K BAR RANK 3 BIT 53 CDC 27
16 10 -K BAR RANK 3 BIT 54 CDD 27
17 12 -K BAR RANK 3 BIT 55 CDE 27
18 13 -K BAR RANK 3 BIT 56 CDF 27
19 23 -K BAR RANK 3 BIT 57 CDG 27

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD I BARREL RANK 0-2 K BARREL RANK 1-3 TYPE 1JWH	B	DWG NO. 53575537	DATE 06/04/86	REV D
	N	SHEET NO. 35	60462210	PAGE JW-35	

C BARREL RANKS 1-3

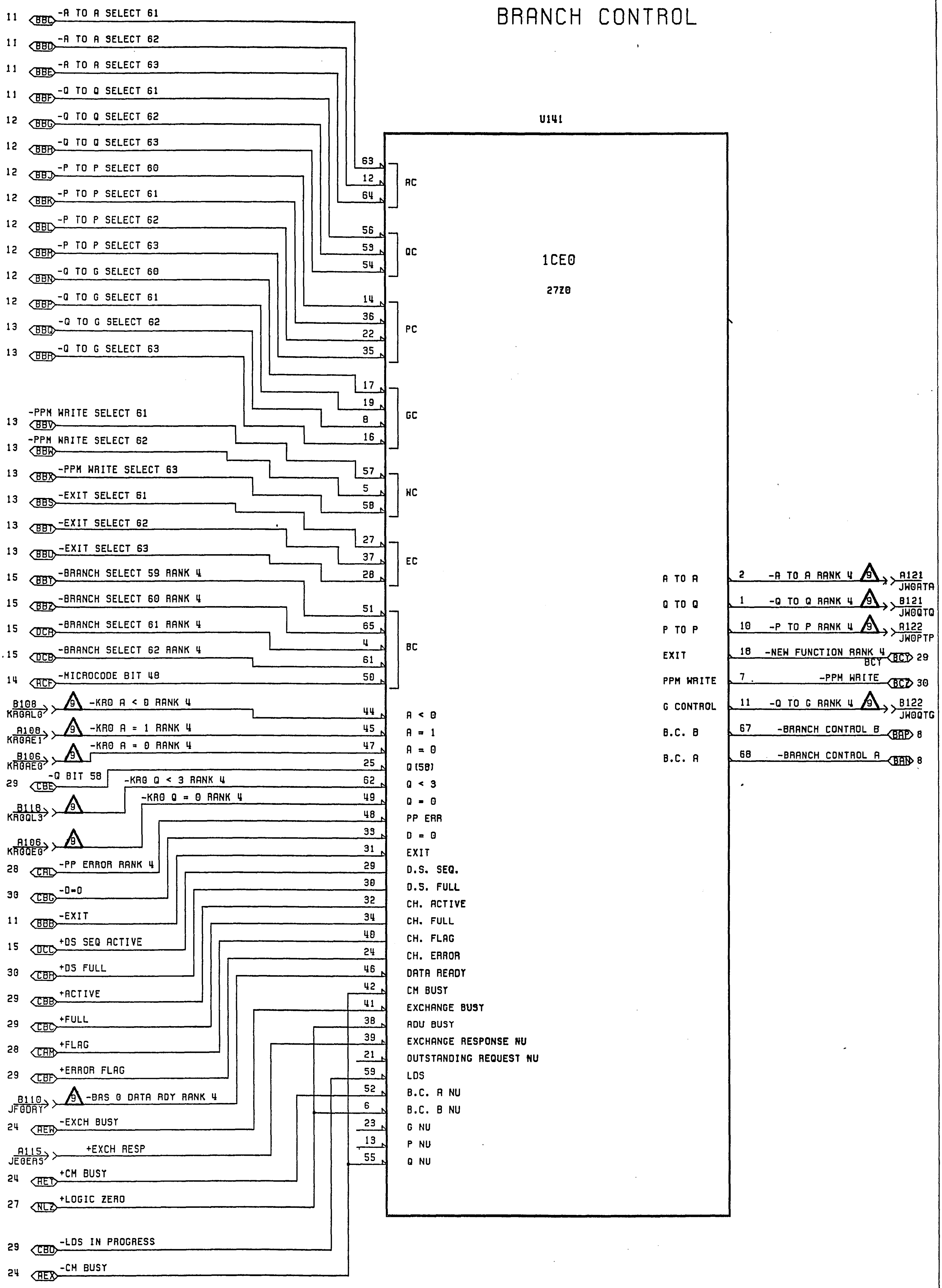

U162
1CT0
6504
3 CN1 -CNTR BIT 1 62 RD ADRS 0
3 CN2 -CNTR BIT 2 61 RD ADRS 1
NC 50 OUTPUT ENABLE A
NC 28 OUTPUT ENABLE B
53 WR ADRS 0
48 WR ADRS 1
12 AAF +LOGIC 0 55 +WR ENABLE A
54 +WR ENABLE B
22 T1J 5 -T1 CLOCK 46 CLOCK
28 CAK -IDLE RANK 0 44 DATA IN BIT 0
35 BAA -NEW FUNCTION RANK 2 47 1
17 BMM -CHANNEL OVERRIDE RANK 4 42 2
30 CBJ +INV OUTPUT PAR RANK 0 49 3
28 CAH -IDLE EN K RANK 0 45 4
25 BFG -C BAR MUX BIT 52 RANK 0 38 5
25 BFH -C BAR MUX BIT 53 RANK 0 39 6
25 BFJ -C BAR MUX BIT 54 RANK 0 41 7
25 BFK -C BAR MUX BIT 55 RANK 0 32 8
25 BFL -C BAR MUX BIT 56 RANK 0 31 9
25 BFM -C BAR MUX BIT 57 RANK 0 58 DATA IN BIT 10
25 BFA -C BAR MUX BIT 58 RANK 0 57 11
25 BFB -C BAR MUX BIT 59 RANK 0 56 12
25 BFC -C BAR MUX BIT 60 RANK 0 59 13
25 BFD -C BAR MUX BIT 61 RANK 0 40 14
25 BFE -C BAR MUX BIT 62 RANK 0 27 15
25 BFF -C BAR MUX BIT 63 RANK 0 29 16
25 BFN -C BAR MUX PAR BIT 1 RANK 1 24 17
25 BFP -C BAR MUX PAR BIT 2 RANK 1 30 18
25 BFR -C BAR MUX PAR BIT 3 RANK 1 25 19
DATA OUT BIT 0 64 -IDLE RANK 3 BCA 2
1 65 -NEW FUNCTION RANK 0 BCB 22
2 2 -CHANNEL OVERRIDE RANK 2 BCC 14
3 22 +INV OUTPUT PAR RANK 3 BEG 38
4 21 -IDLE EN K RANK 3 BCE 22
5 19 -C BAR RANK 3 BIT 52 BCF 23,38
6 67 -C BAR RANK 3 BIT 53 BCG 23,38
7 63 -C BAR RANK 3 BIT 54 BCH 23,38
8 11 -C BAR RANK 3 BIT 55 BCJ 23,38
9 1 -C BAR RANK 3 BIT 56 BCK 23,38
DATA OUT BIT 10 5 -C BAR RANK 3 BIT 57 BCL 23,38
11 6 -C BAR RANK 3 BIT 58 BCM 23,38
12 7 -C BAR RANK 3 BIT 59 BCN 23,38
13 8 -C BAR RANK 3 BIT 60 BCP 23,38
14 14 -C BAR RANK 3 BIT 61 DCR 23,38
15 16 -C BAR RANK 3 BIT 62 BCS 23,38
16 10 -C BAR RANK 3 BIT 63 BCT 23,38
17 12 -C BAR RANK 4 PAR BIT 1 8 BCU 24
18 13 -C BAR RANK 4 PAR BIT 2 8 BCW 24
19 23 -C BAR RANK 4 PAR BIT 3 8 BCX 24

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

△8 LINES LONGER THAN 12 INCHES

CONTROL DATA	MICROCODE BOARD C BARREL RANK 1-3	B	DWG NO. 53575537	DATE 11/01/85	REV A
	TYPE 1JWH	N	SHEET NO. 36	60462210	PAGE JW-36

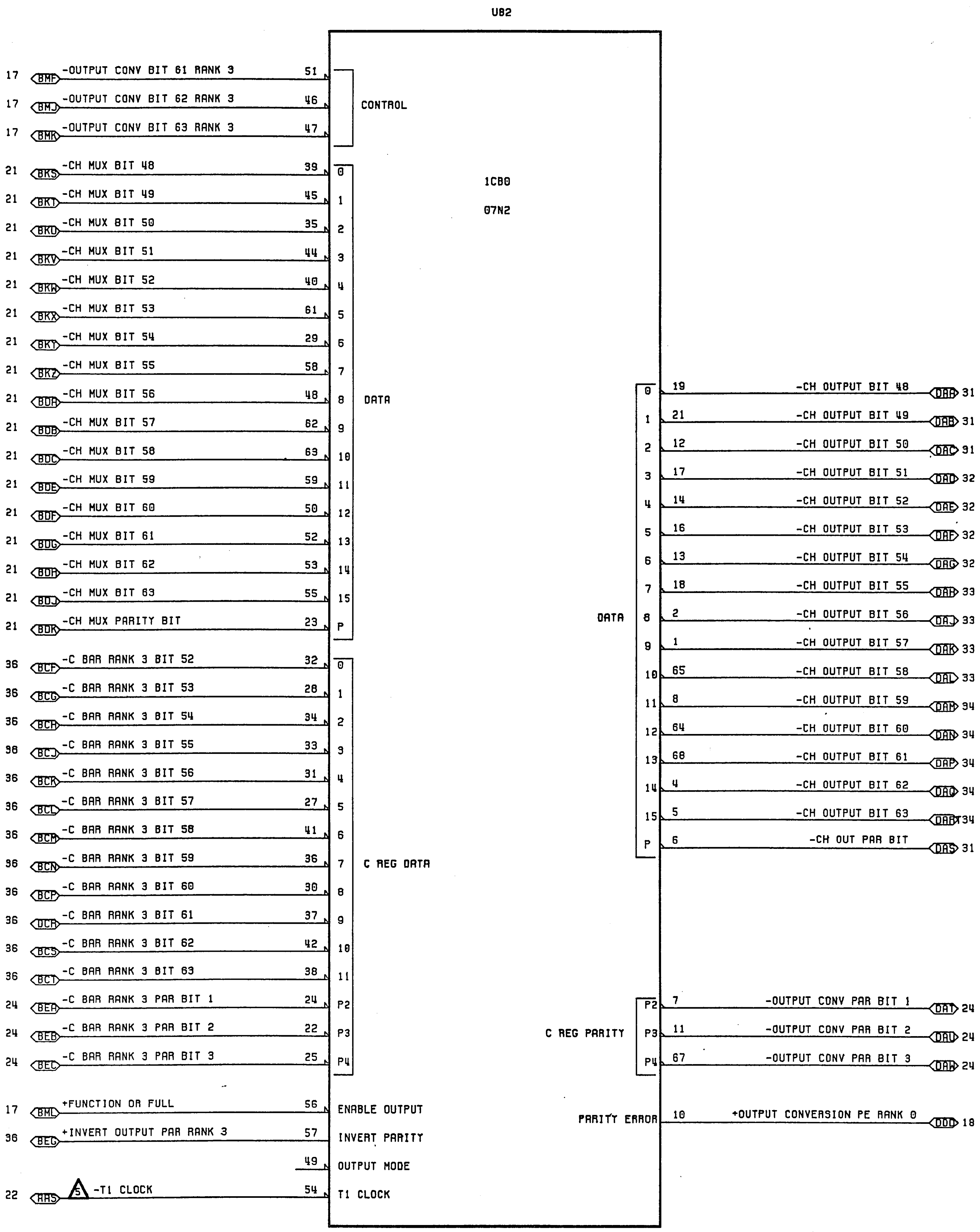
BRANCH CONTROL



9 LINES NO LONGER THAN 12 INCHES

CONTROL DATA	MICROCODE BOARD BRANCH CONTROL TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		SHEET NO. 37	60462210	PAGE JW-97	

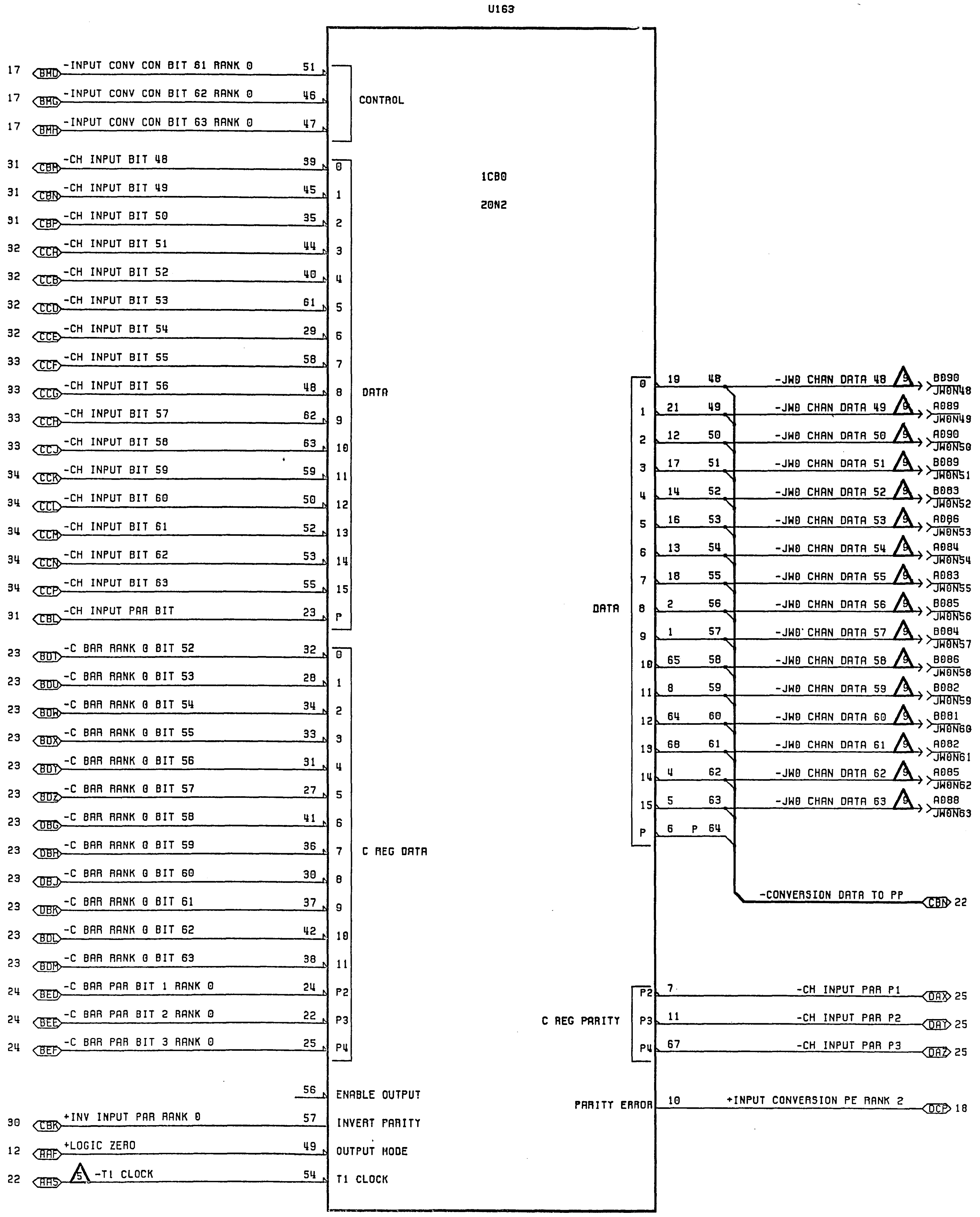
OUTPUT CONVERTER


U82
1CB0
07N2
17 BMF -OUTPUT CONV BIT 61 RANK 3 51
17 BMJ -OUTPUT CONV BIT 62 RANK 3 46
17 BMK -OUTPUT CONV BIT 63 RANK 3 47
CONTROL
21 BKS -CH MUX BIT 48 39 0
21 BKT -CH MUX BIT 49 45 1
21 BKU -CH MUX BIT 50 35 2
21 BKV -CH MUX BIT 51 44 3
21 BKW -CH MUX BIT 52 40 4
21 BKX -CH MUX BIT 53 61 5
21 BKY -CH MUX BIT 54 29 6
21 BKZ -CH MUX BIT 55 58 7
21 BDA -CH MUX BIT 56 48 8
21 BDB -CH MUX BIT 57 62 9
21 BDC -CH MUX BIT 58 63 10
21 BDE -CH MUX BIT 59 59 11
21 BDF -CH MUX BIT 60 50 12
21 BDG -CH MUX BIT 61 52 13
21 BDH -CH MUX BIT 62 53 14
21 BDJ -CH MUX BIT 63 55 15
21 BDK -CH MUX PARITY BIT 23 P
DATA
36 BCF -C BAR RANK 3 BIT 52 32 0
36 BCG -C BAR RANK 3 BIT 53 28 1
36 BCH -C BAR RANK 3 BIT 54 34 2
36 BCJ -C BAR RANK 3 BIT 55 33 3
36 BCK -C BAR RANK 3 BIT 56 31 4
36 BCL -C BAR RANK 3 BIT 57 27 5
36 BCM -C BAR RANK 3 BIT 58 41 6
36 BCN -C BAR RANK 3 BIT 59 36 7
36 BCP -C BAR RANK 3 BIT 60 30 8
36 DCR -C BAR RANK 3 BIT 61 37 9
36 BCS -C BAR RANK 3 BIT 62 42 10
36 BCT -C BAR RANK 3 BIT 63 38 11
24 BER -C BAR RANK 3 PAR BIT 1 24 P2
24 BEB -C BAR RANK 3 PAR BIT 2 22 P3
24 BEC -C BAR RANK 3 PAR BIT 3 25 P4
C REG DATA
17 BML +FUNCTION OR FULL 56 ENABLE OUTPUT
36 BEG +INVERT OUTPUT PAR RANK 3 57 INVERT PARITY
49 OUTPUT MODE
22 RHS 5 -T1 CLOCK 54 T1 CLOCK
DATA
0 19 -CH OUTPUT BIT 48 DAA 31
1 21 -CH OUTPUT BIT 49 DAB 31
2 12 -CH OUTPUT BIT 50 DAC 31
3 17 -CH OUTPUT BIT 51 DAD 32
4 14 -CH OUTPUT BIT 52 DAE 32
5 16 -CH OUTPUT BIT 53 DAF 32
6 13 -CH OUTPUT BIT 54 DAG 32
7 18 -CH OUTPUT BIT 55 DAH 33
8 2 -CH OUTPUT BIT 56 DAJ 33
9 1 -CH OUTPUT BIT 57 DAK 33
10 65 -CH OUTPUT BIT 58 DAL 33
11 8 -CH OUTPUT BIT 59 DAM 34
12 64 -CH OUTPUT BIT 60 DAN 34
13 60 -CH OUTPUT BIT 61 DAP 34
14 4 -CH OUTPUT BIT 62 DAQ 34
15 5 -CH OUTPUT BIT 63 DAR 34
P 6 -CH OUT PAR BIT DAS 31
C REG PARITY
P2 7 -OUTPUT CONV PAR BIT 1 DAT 24
P3 11 -OUTPUT CONV PAR BIT 2 DAU 24
P4 67 -OUTPUT CONV PAR BIT 3 DAW 24
PARITY ERROR 10 +OUTPUT CONVERSION PE RANK 0 DDD 18

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD OUTPUT CONVERSION CHIP TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		N	SHEET NO. 38	60462210	PAGE JW-38

INPUT CONVERTER


U163
1CB0
20N2
17 BMD -INPUT CONV CON BIT 61 RANK 0 51
17 BMG -INPUT CONV CON BIT 62 RANK 0 46
17 BMH -INPUT CONV CON BIT 63 RANK 0 47
CONTROL
31 CBM -CH INPUT BIT 48 39 0
31 CBN -CH INPUT BIT 49 45 1
31 CBP -CH INPUT BIT 50 35 2
32 CCA -CH INPUT BIT 51 44 3
32 CCB -CH INPUT BIT 52 40 4
32 CCD -CH INPUT BIT 53 61 5
32 CCE -CH INPUT BIT 54 29 6
33 CCF -CH INPUT BIT 55 58 7
33 CCG -CH INPUT BIT 56 48 8
33 CCH -CH INPUT BIT 57 62 9
33 CCJ -CH INPUT BIT 58 63 10
34 CCK -CH INPUT BIT 59 59 11
34 CCL -CH INPUT BIT 60 50 12
34 CCM -CH INPUT BIT 61 52 13
34 CCN -CH INPUT BIT 62 53 14
34 CCP -CH INPUT BIT 63 55 15
31 CBL -CH INPUT PAR BIT 23 P
DATA
23 BDT -C BAR RANK 0 BIT 52 32 0
23 BDU -C BAR RANK 0 BIT 53 28 1
23 BDW -C BAR RANK 0 BIT 54 34 2
23 BDX -C BAR RANK 0 BIT 55 33 3
23 BDY -C BAR RANK 0 BIT 56 31 4
23 BDZ -C BAR RANK 0 BIT 57 27 5
23 DBG -C BAR RANK 0 BIT 58 41 6
23 DBH -C BAR RANK 0 BIT 59 36 7
23 DBJ -C BAR RANK 0 BIT 60 30 8
23 DBK -C BAR RANK 0 BIT 61 37 9
23 BDL -C BAR RANK 0 BIT 62 42 10
23 BDM -C BAR RANK 0 BIT 63 38 11
24 BED -C BAR PAR BIT 1 RANK 0 24 P2
24 BEE -C BAR PAR BIT 2 RANK 0 22 P3
24 BEF -C BAR PAR BIT 3 RANK 0 25 P4
C REG DATA
56 ENABLE OUTPUT
30 CBK +INV INPUT PAR RANK 0 57 INVERT PARITY
12 AAF +LOGIC ZERO 49 OUTPUT MODE
22 AAS 5 -T1 CLOCK 54 T1 CLOCK
DATA
0 19 48 -JW0 CHAN DATA 48 9 B090 JW0N48
1 21 49 -JW0 CHAN DATA 49 9 A089 JW0N49
2 12 50 -JW0 CHAN DATA 50 9 A090 JW0N50
3 17 51 -JW0 CHAN DATA 51 9 B089 JW0N51
4 14 52 -JW0 CHAN DATA 52 9 B083 JW0N52
5 16 53 -JW0 CHAN DATA 53 9 A086 JW0N53
6 13 54 -JW0 CHAN DATA 54 9 A084 JW0N54
7 18 55 -JW0 CHAN DATA 55 9 A083 JW0N55
8 2 56 -JW0 CHAN DATA 56 9 B085 JW0N56
9 1 57 -JW0 CHAN DATA 57 9 B084 JW0N57
10 65 58 -JW0 CHAN DATA 58 9 B086 JW0N58
11 8 59 -JW0 CHAN DATA 59 9 B082 JW0N59
12 64 60 -JW0 CHAN DATA 60 9 B081 JW0N60
13 68 61 -JW0 CHAN DATA 61 9 A082 JW0N61
14 4 62 -JW0 CHAN DATA 62 9 A085 JW0N62
15 5 63 -JW0 CHAN DATA 63 9 A088 JW0N63
P 6 P 64
-CONVERSION DATA TO PP CBN 22
C REG PARITY
P2 7 -CH INPUT PAR P1 DAX 25
P3 11 -CH INPUT PAR P2 DAY 25
P4 67 -CH INPUT PAR P3 DAZ 25
PARITY ERROR 10 +INPUT CONVERSION PE RANK 2 DCP 18

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

△9 LINES NO LONGER THA 12 INCHES

CONTROL DATA	MICROCODE BOARD INPUT CONVERSION CHIP TYPE 1JWH	B	DWG NO. 53575537	DATE 11/01/85	REV A
		SHEET NO. 39	60462210	PAGE JW-39	

TESTPOINTS

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	05	-I BAR RNK 4 BIT 62	27		
02	05	-I BAR RNK 4 BIT 61	28		
03	30	+ D = 0	29	18	-uCODE PE RANK 0
04	24	+IDLE	30	29	-NEW FCTN RANK 4
05	03	+CHIP COUNTER BIT 2	31		
06	03	+CHIP COUNTER BIT 1	32		
07	28	+PP ERROR RANK 4	33	18	-uCODE ADRS PE RK 4
08	29	+EMPTY	34	24	+CM BUSY
09	28	+IDLE RANK 0	35	15	+ENBL UNCOND IDLE
10	24	+EXCHANGE BUSY	36	08	-BRANCH CONTROL A
11	22	+K BAR SEL 0 RNK 0	37	05	-I BAR RNK 4 BIT 64
12	14	+ADU ENABLE	38	08	-BRANCH CONTROL B
13	07	+Y MUX SEL BIT 62	39	18	-JW0 CONV ERROR
14	22	-INPUT CHAN DATA PE	40	24	+GO LDS
15	05	-I BAR RNK 4 BIT 55	41	22	-DEADSTART RANK 0
16	05	-I BAR RNK 4 BIT 59	42	17	-MICROCODE BIT 78
17	05	-I BAR RNK 4 BIT 60	43	18	-JW0 ERROR RANK 1
18	05	-I BAR RNK 4 BIT 56	44	30	-DS FULL
19	05	-I BAR RNK 4 BIT 58	45	30	+ENABLE MAC MUX
20	05	-I BAR RNK 4 BIT 57	46	28	-FLAG
21	05	-I BAR RNK 4 BIT 63	47	17	+ENABLE WRITE FCTN
22	28	+OUTSTAND IDLE RK 0	48	29	-ERROR FLAG
23	22	+T1 CLOCK	49	10	-KEYPOINT
24			50	29	-ACTIVE
25	15	+DS SEQUENCE ACTIVE	51	17	+ENABLE READ FCTN
26					

CONNECTOR PINS

GND	A014,B014,A024,B024,A034,B034,A054,B054,A065, B065,A066,B066,A077,B077,A097,B097,A107, B107,A117,B117,A037,A038,B037,B038,B128
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	NOT USED
TERM	A023,B023,A025,B025,A026,B026,A028,A040,B040, A041,B041,A042,B042,A043,B043,B046
UNUSED	A045,A046,B088,A110,B115,B120

CONTROL DATA	MICROCODE BOARD TESTPOINTS & SIGNAL NAMES AND CONNECTOR PINS TYPE 1JWH	B	DWG NO. 53575537	DATE 04/09/86	REV A
	N	SHEET NO. 40	60462210	PAGE JW-40	

CAUTION

There are two sets of logic diagrams for this board. Each set supports a different board version. The appropriate logic diagram set for your board has a board master (B/M) number that matches the printed wiring board (PWB) number of the board. The B/M number is located in the upper right corner of the diagram set cover page (sheet 1), and the PWB number is located on the back of the board.

1JWH uCODE BOARD

REVISION HISTORY B/M 41654101

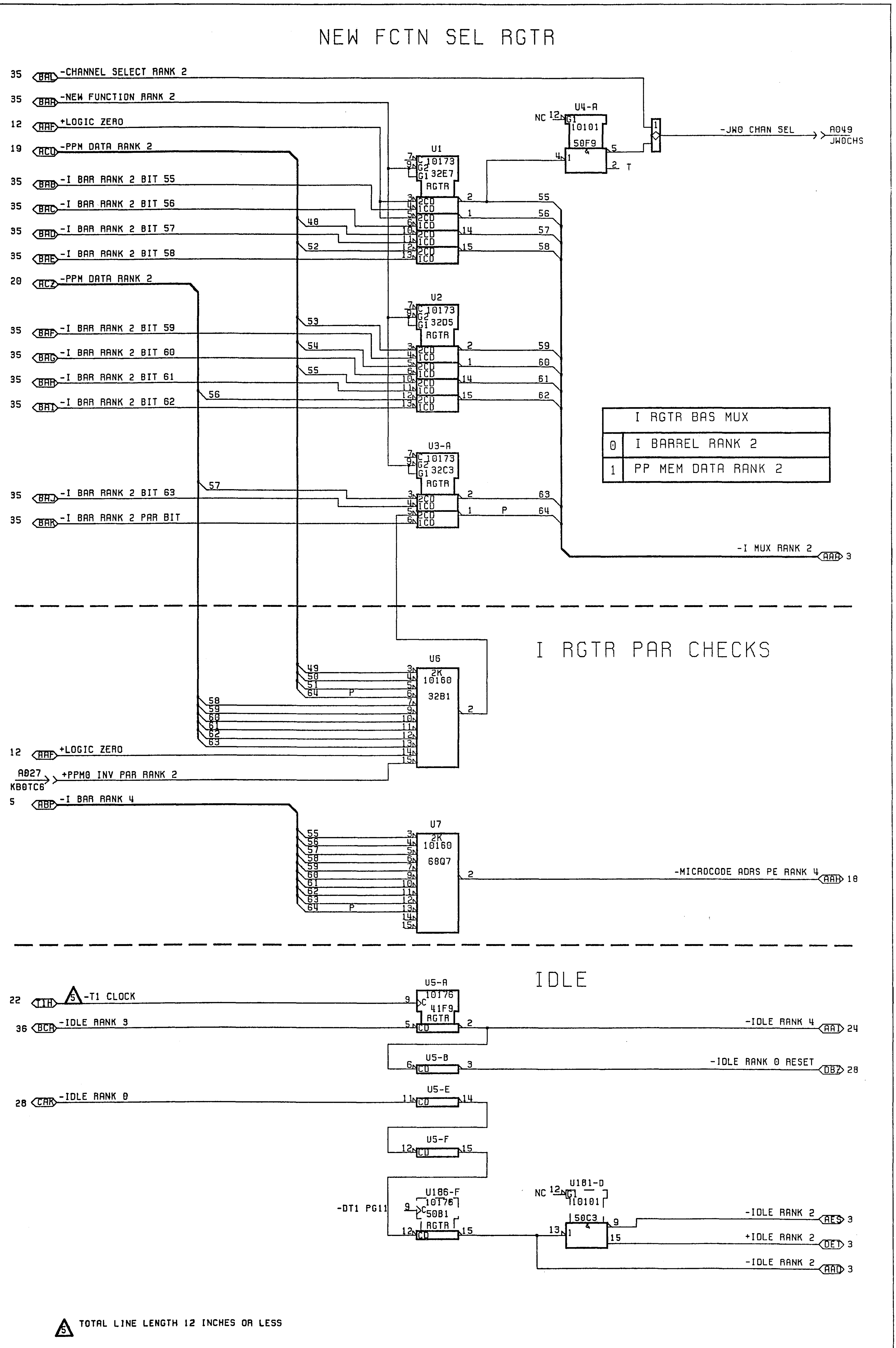
DATE	REV	DESCRIPTION OF CHANGE	INIT
04/11/86	A	CLASS A RELEASE OF LOGIC DIAGRAMS	LHJ
01/21/88	B	ECO #49505 DIAGRAM CORRECTIONS TO	
		SHEETS 03, 14, & 22	DS

DWN	L H JOHNSON	04/11/86
CHKD	D R FORD	05/08/86
ENG	D R FORD	05/08/86
PUBS	R K BONDE	05/08/86
APP	D R FORD	05/08/86

NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

LOC: B14,B12,B10,B08,D24,C24

CONTROL DATA	REVISION HISTORY	B	DWG NO. 22105621	DATE 06/14/88	REV B
	TYPE 1JWH	N	SHEET NO. 1	60462210	PAGE JW-01



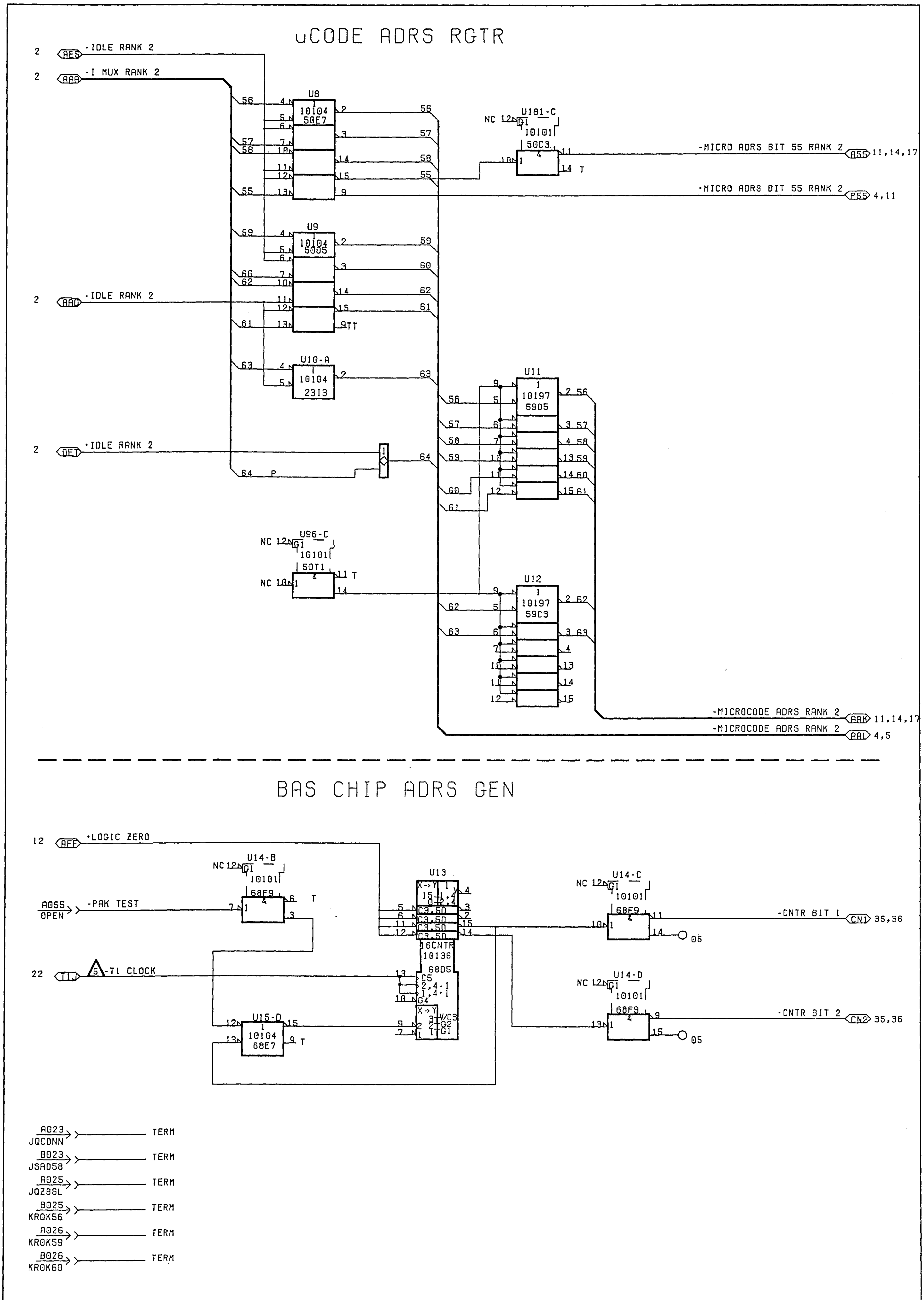
I RGTR BAS MUX	
0	I BARREL RANK 2
1	PP MEM DATA RANK 2

⚠5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA

MICROCODE BOARD
NEW FUNCTION SELECT
I REGISTER RANK 2 PARITY
TYPE 1JWH

	DWG NO.	DATE	REV
B	22105621	04/11/86	A
SHEET NO. 2	60462210	PAGE JW-02	

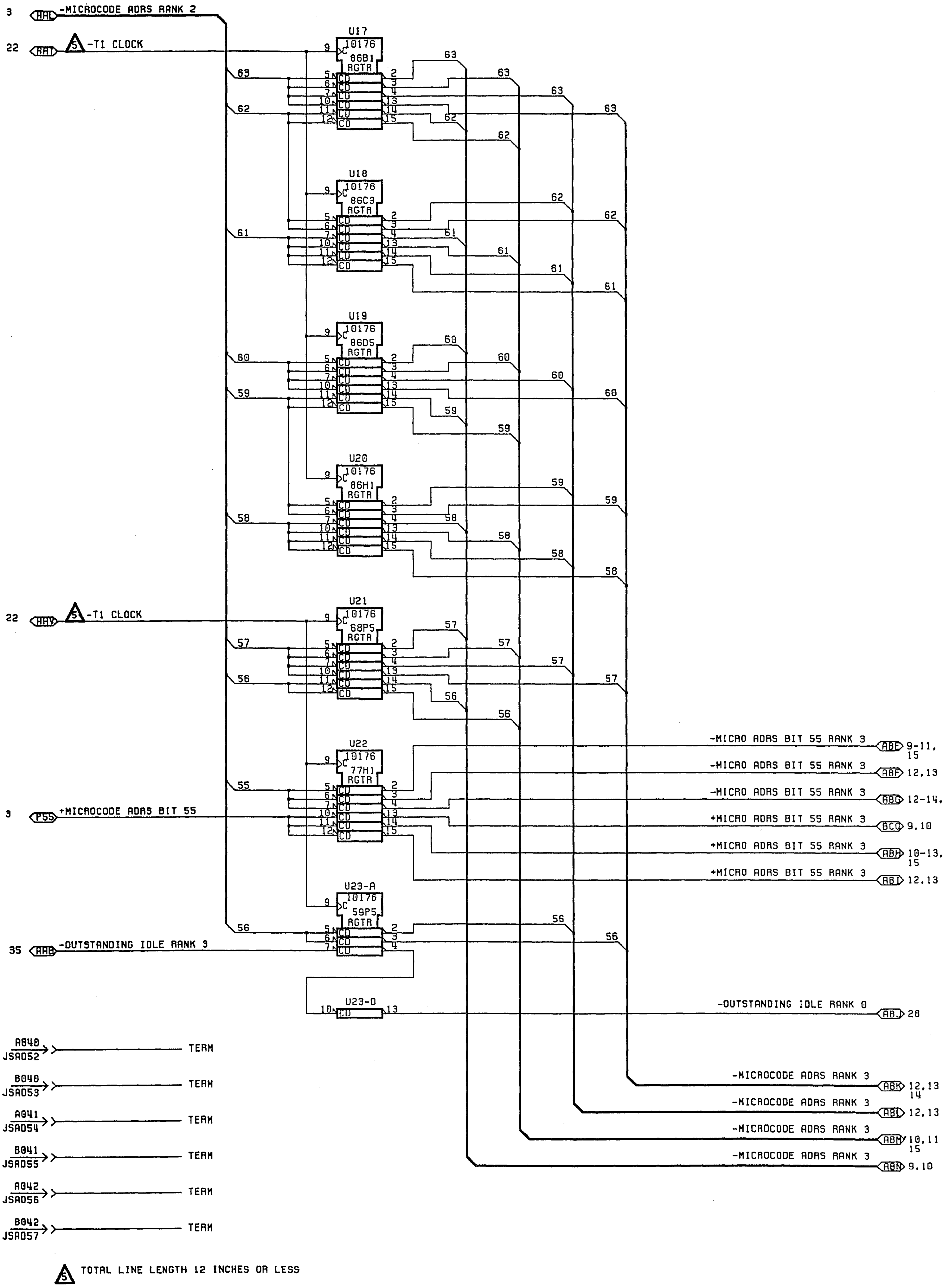


5 TOTAL LINE LENGTH 12 INCHES OR LESS

6 CLOCK LINES NO LONGER THAN 7 INCHES

CONTROL DATA	MICROCODE BOARD MICROCODE ADDRESS AND BARREL CHIP ADDRESS GENERATOR TYPE 1JWH	B	DWG NO. 22105621	DATE 06/14/88	REV B
		N	SHEET NO. 3	60462210	PAGE JW-03

uCODE ADRS RANK 3 F/O RGTR


3 AAL -MICROCODE ADRS RANK 2
22 AAT 5 -T1 CLOCK
22 AAV 5 -T1 CLOCK
3 P55 +MICROCODE ADRS BIT 55
35 AAB -OUTSTANDING IDLE RANK 3
U17 10176 86B1 RGTR
U18 10176 86C3 RGTR
U19 10176 86D5 RGTR
U20 10176 86H1 RGTR
U21 10176 68P5 RGTR
U22 10176 77H1 RGTR
U23-A 10176 59P5 RGTR
U23-D
63
62
61
60
59
58
57
56
55
-MICRO ADRS BIT 55 RANK 3 ABE 9-11, 15
-MICRO ADRS BIT 55 RANK 3 ABF 12,13
-MICRO ADRS BIT 55 RANK 3 ABG 12-14,
+MICRO ADRS BIT 55 RANK 3 BCQ 9,10
+MICRO ADRS BIT 55 RANK 3 ABH 10-13, 15
+MICRO ADRS BIT 55 RANK 3 ABI 12,13
-OUTSTANDING IDLE RANK 0 ABJ 28
-MICROCODE ADRS RANK 3 ABK 12,13 14
-MICROCODE ADRS RANK 3 ABL 12,13
-MICROCODE ADRS RANK 3 ABM 10,11 15
-MICROCODE ADRS RANK 3 ABN 9,10
A040 JSA052 TERM
B040 JSA053 TERM
A041 JSA054 TERM
B041 JSA055 TERM
A042 JSA056 TERM
B042 JSA057 TERM

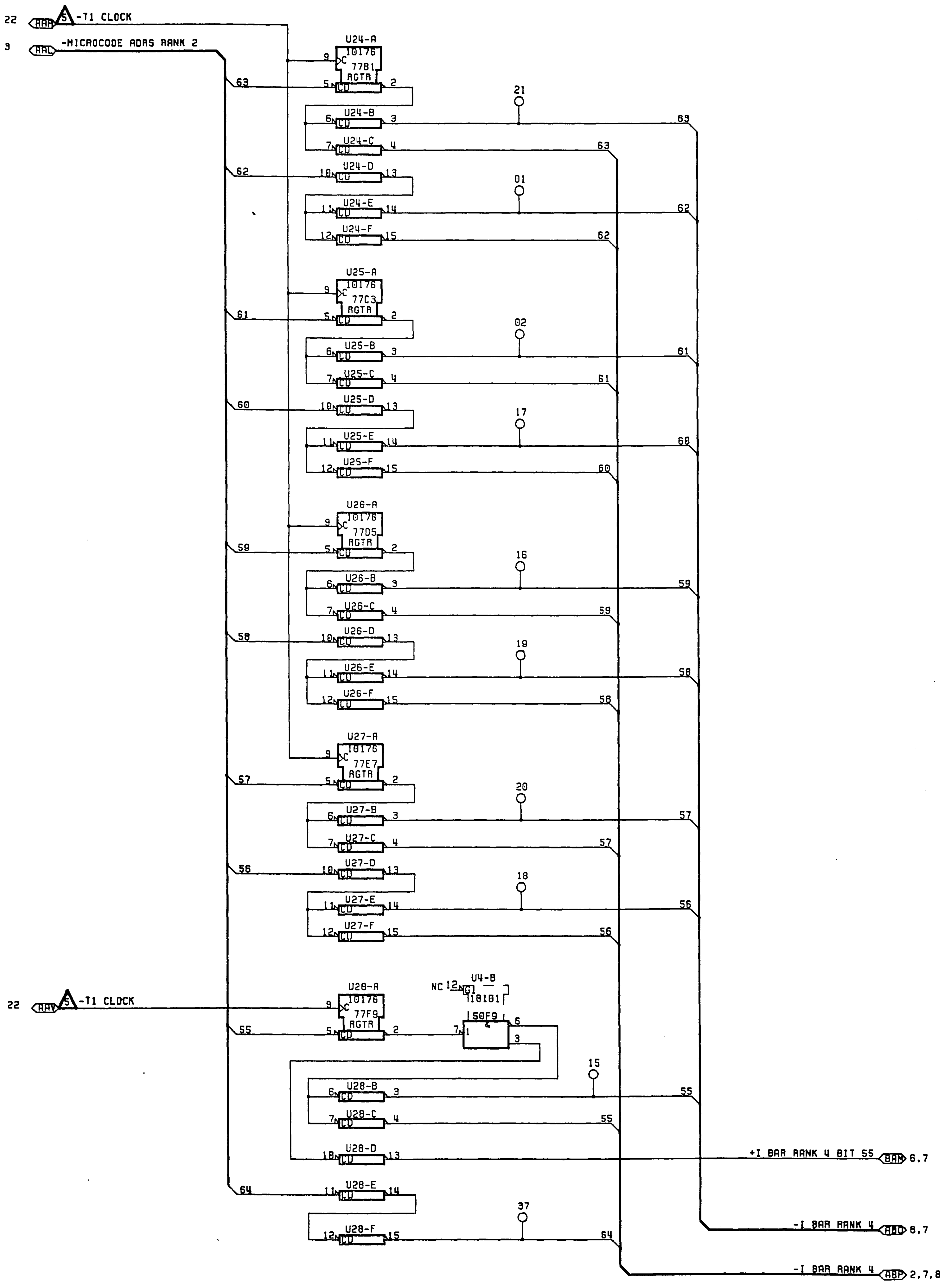
5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA

MICROCODE BOARD
MICROCODE ADDRESS RANK 3 FANOUT
TYPE 1JWH

B	DWG NO. 22105621	DATE 04/11/86	REV A
SHEET NO. 4	60462210	PAGE JW-04	

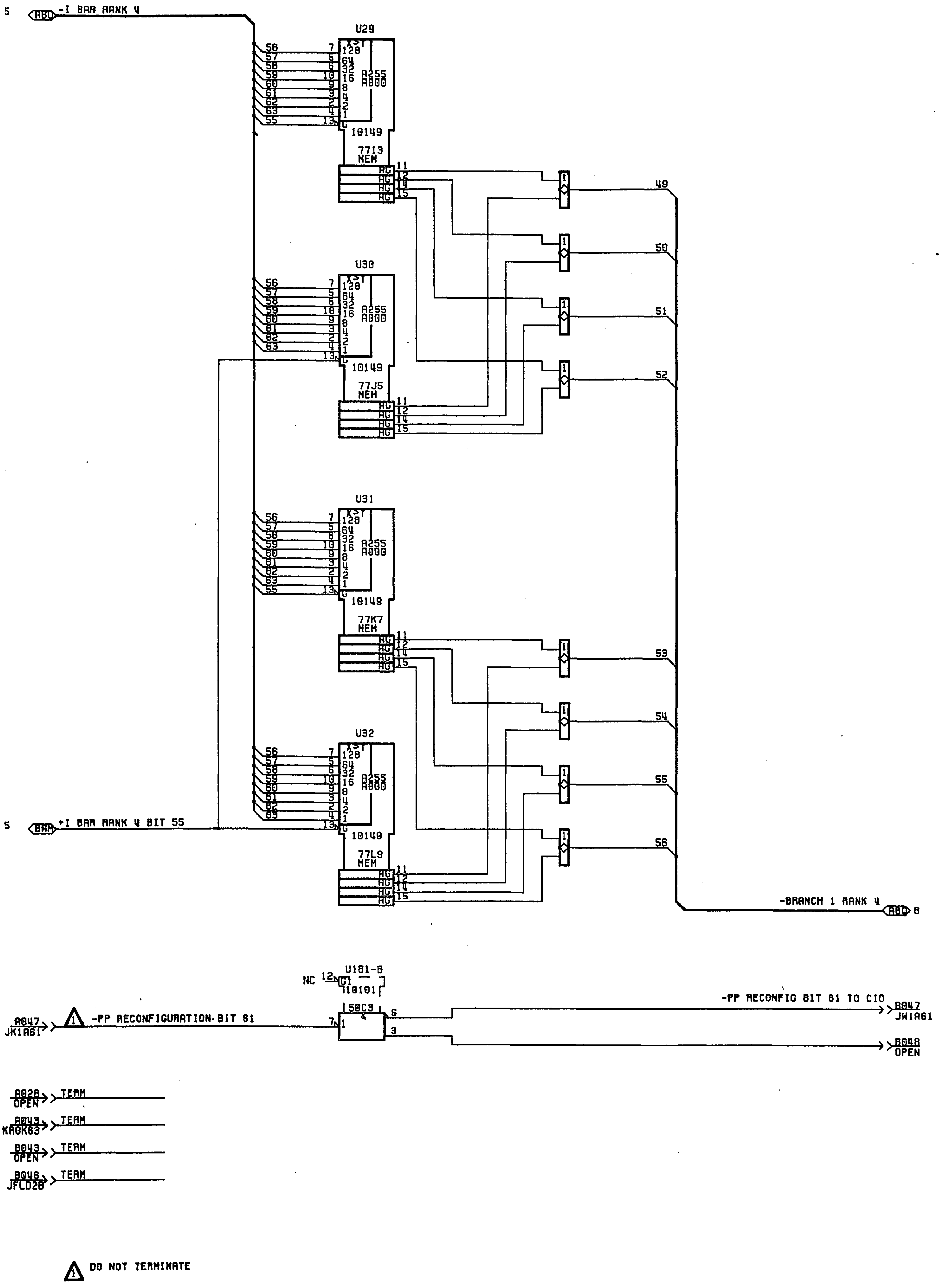
I BARREL RANKS 3 & 4 RGTR



5 TOTAL LINE LENGTH 12 INCHES OR LESS

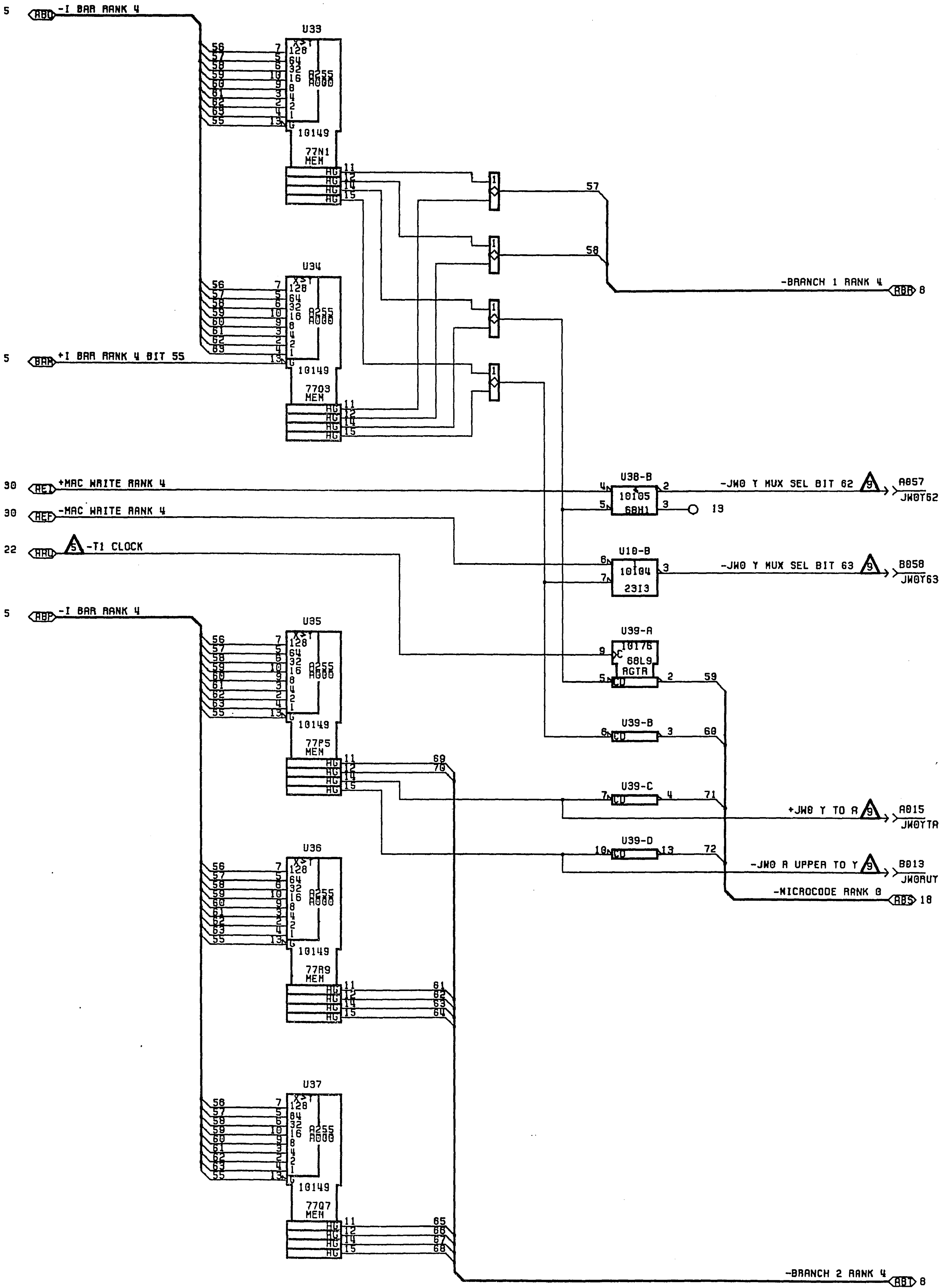
CONTROL DATA
MICROCODE BOARD
I BARREL RANKS 3 & 4
TYPE 1JWH
B
DWG NO. 22185621
DATE 04/11/86
REV A
SHEET NO. 5
60462210
PAGE JW-05

BRANCH 1 ROMS uCODE BITS 49-56



CONTROL DATA	MICROCODE BOARD BRANCH 1 ROMS MICROCODE BITS 49-56 TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 6	60462210	PAGE JW-08	

BRANCH 1 ROMS uCODE BITS 57-58
BRANCH 2 ROMS uCODE BITS 59-72

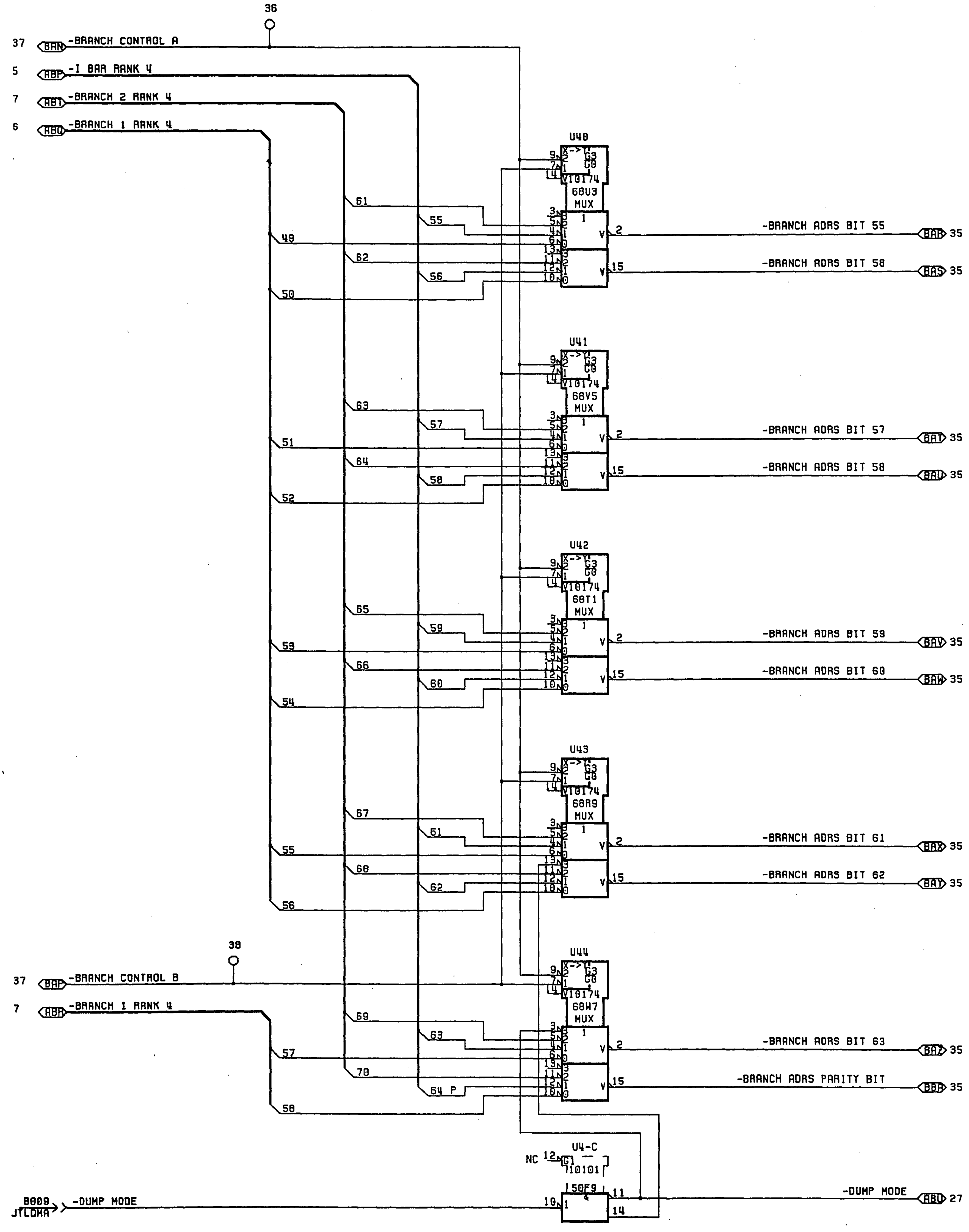


5 TOTAL LINE LENGTH 12 INCHES OR LESS

9 LINES NO LONGER THAN 12 INCHES

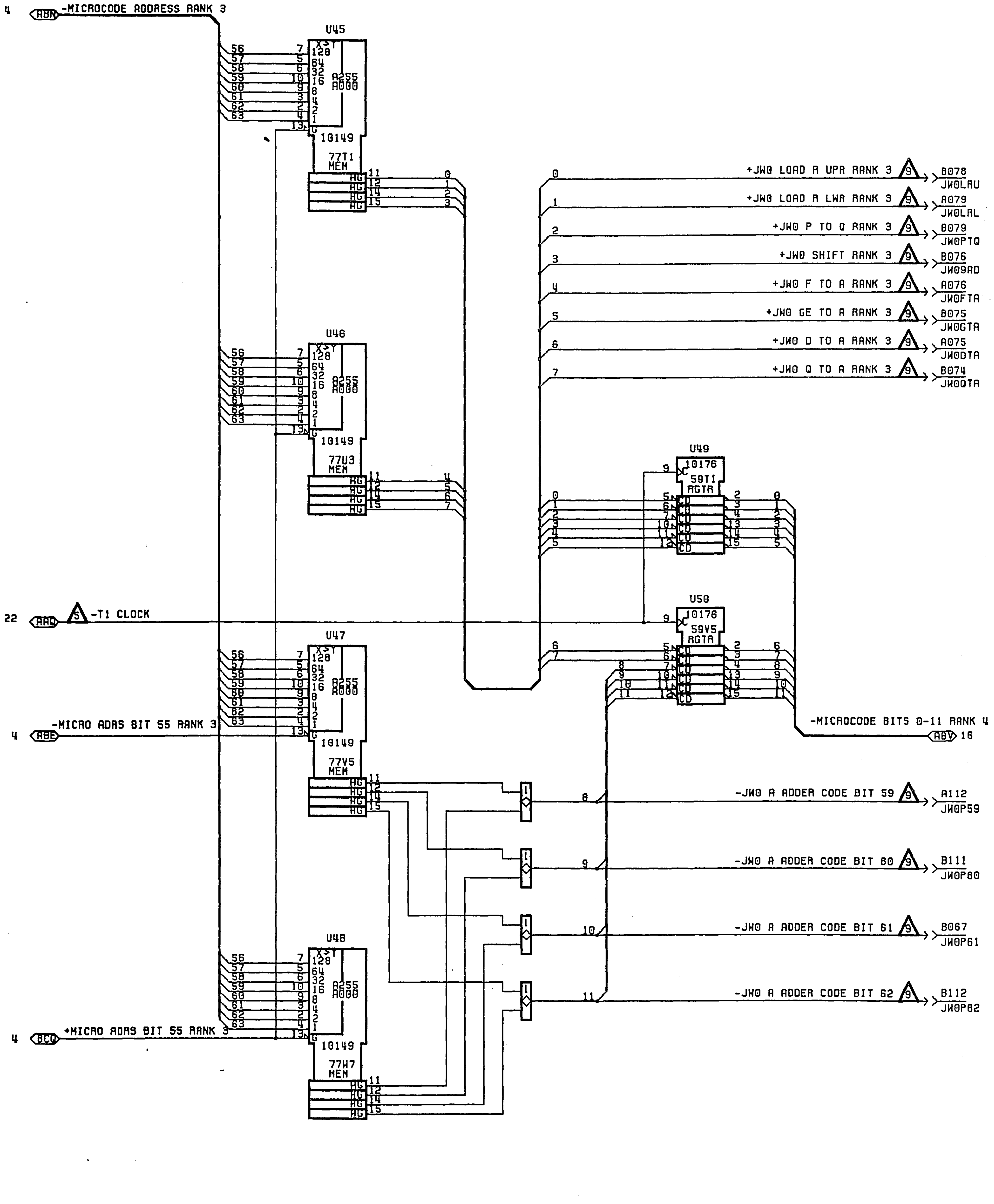
CONTROL DATA	MICROCODE BOARD BRAN 1 ROMS MICROCODE BITS 57-58 BRAN 2 ROMS MICROCODE BITS 59-72 TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 7	60462210	PAGE JW-07	

BRANCH SEL MUX



	MICROCODE BOARD BRANCH SELECT MUX TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
CONTROL DATA			SHEET NO. 8	60462210	PAGE JW-08

uCODE DECODERS BITS 0-11



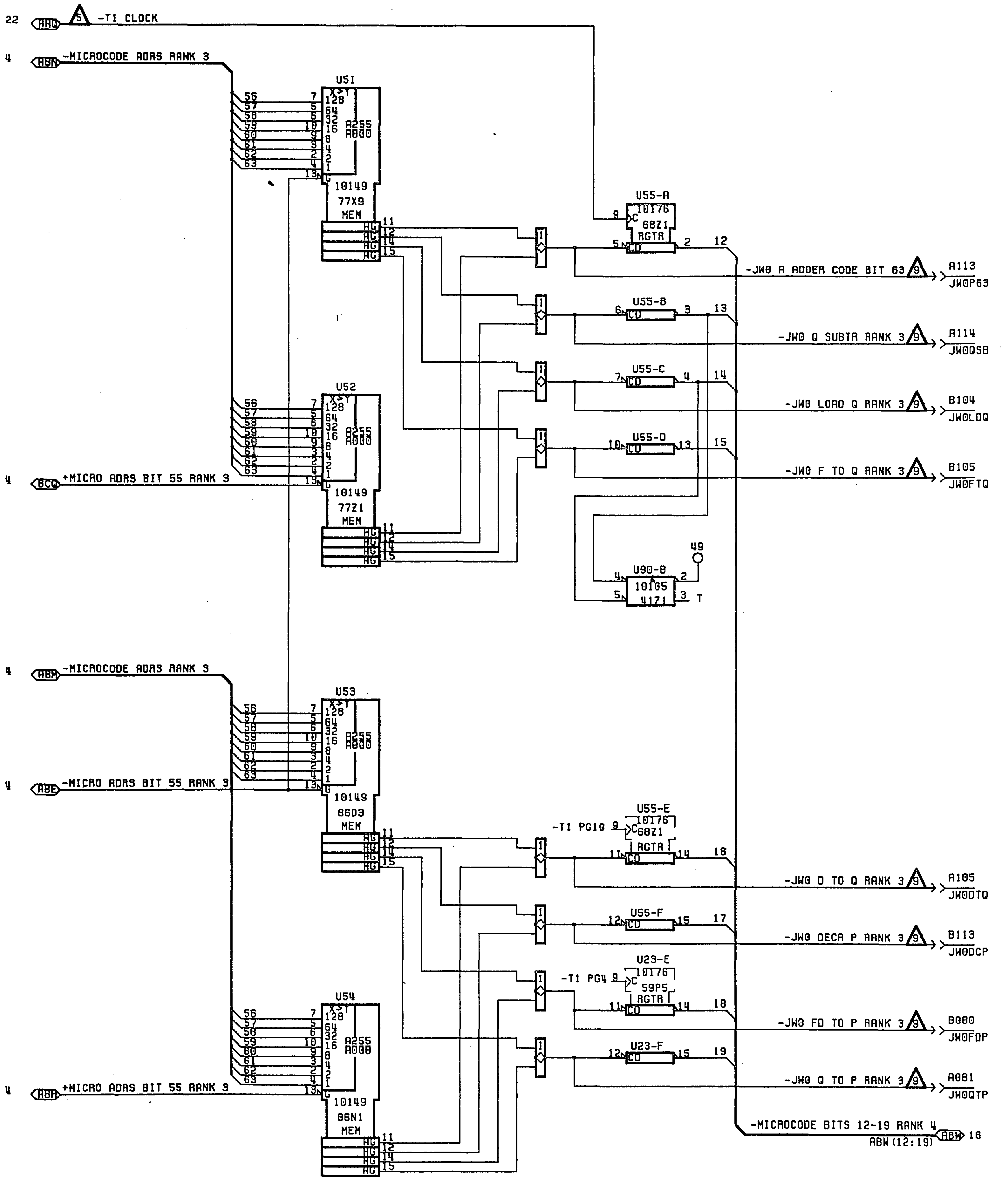
4 ABN -MICROCODE ADDRESS RANK 3
U45
10149
77T1 MEM
U46
10149
77U3 MEM
U47
10149
77V5 MEM
U48
10149
77W7 MEM
A255 A000
56 57 58 59 60 61 62 63
128 64 32 16 8 4 2 1
22 AAQ -T1 CLOCK
4 ABE -MICRO ADRS BIT 55 RANK 3
4 BCQ +MICRO ADRS BIT 55 RANK 3
+JW0 LOAD A UPR RANK 3 B078 JW0LAU
+JW0 LOAD A LWR RANK 3 A079 JW0LAL
+JW0 P TO Q RANK 3 B079 JW0PTQ
+JW0 SHIFT RANK 3 B076 JW0SAD
+JW0 F TO A RANK 3 A076 JW0FTA
+JW0 GE TO A RANK 3 B075 JW0GTA
+JW0 D TO A RANK 3 A075 JW0DTA
+JW0 Q TO A RANK 3 B074 JW0QTA
U49
10176
59T1 RGTR
U50
10176
59V5 RGTR
-MICROCODE BITS 0-11 RANK 4
ABV 16
-JW0 A ADDER CODE BIT 59 A112 JW0P59
-JW0 A ADDER CODE BIT 60 B111 JW0P60
-JW0 A ADDER CODE BIT 61 B067 JW0P61
-JW0 A ADDER CODE BIT 62 B112 JW0P62

5 TOTAL LINE LENGTH 12 INCHES OR LESS

9 LINES NO LONGER THAN 12 INCHES

CONTROL DATA	MICROCODE BOARD MICROCODE BITS 0-11 TYPE 1JWH	B	DWG NO. 22105821	DATE 04/11/86	REV A
		SHEET NO. 9	60462210	PAGE JW-09	

uCODE DECODERS BITS 12-19

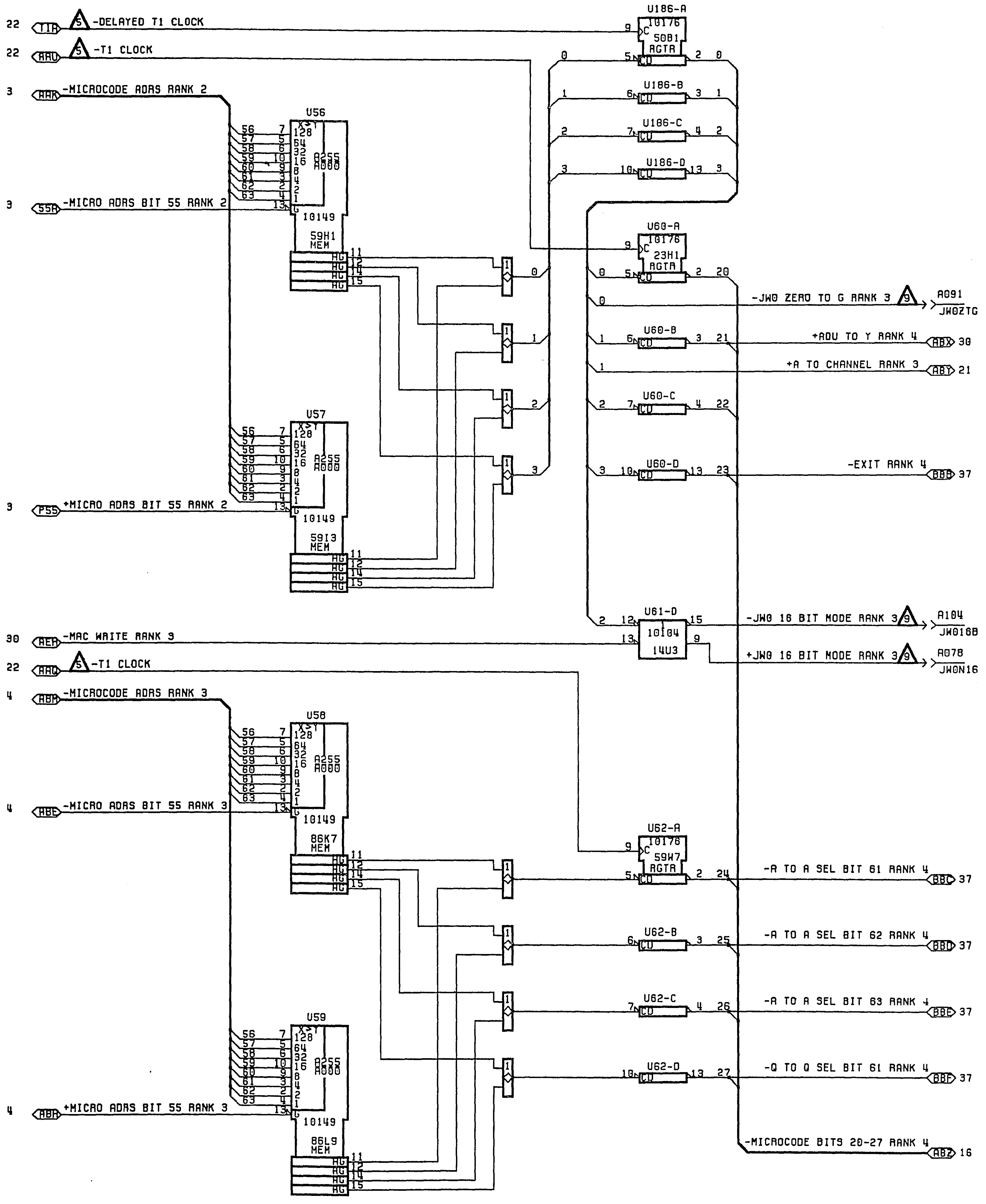


5 TOTAL LINE LENGTH 12 INCHES OR LESS

9 LINES NO LONGER THAN 12 INCHES

CONTROL DATA	MICROCODE BOARD MICROCODE BITS 12-19 TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 10	60462210	PAGE JW-10	

uCODE DECODERS BITS 20-27

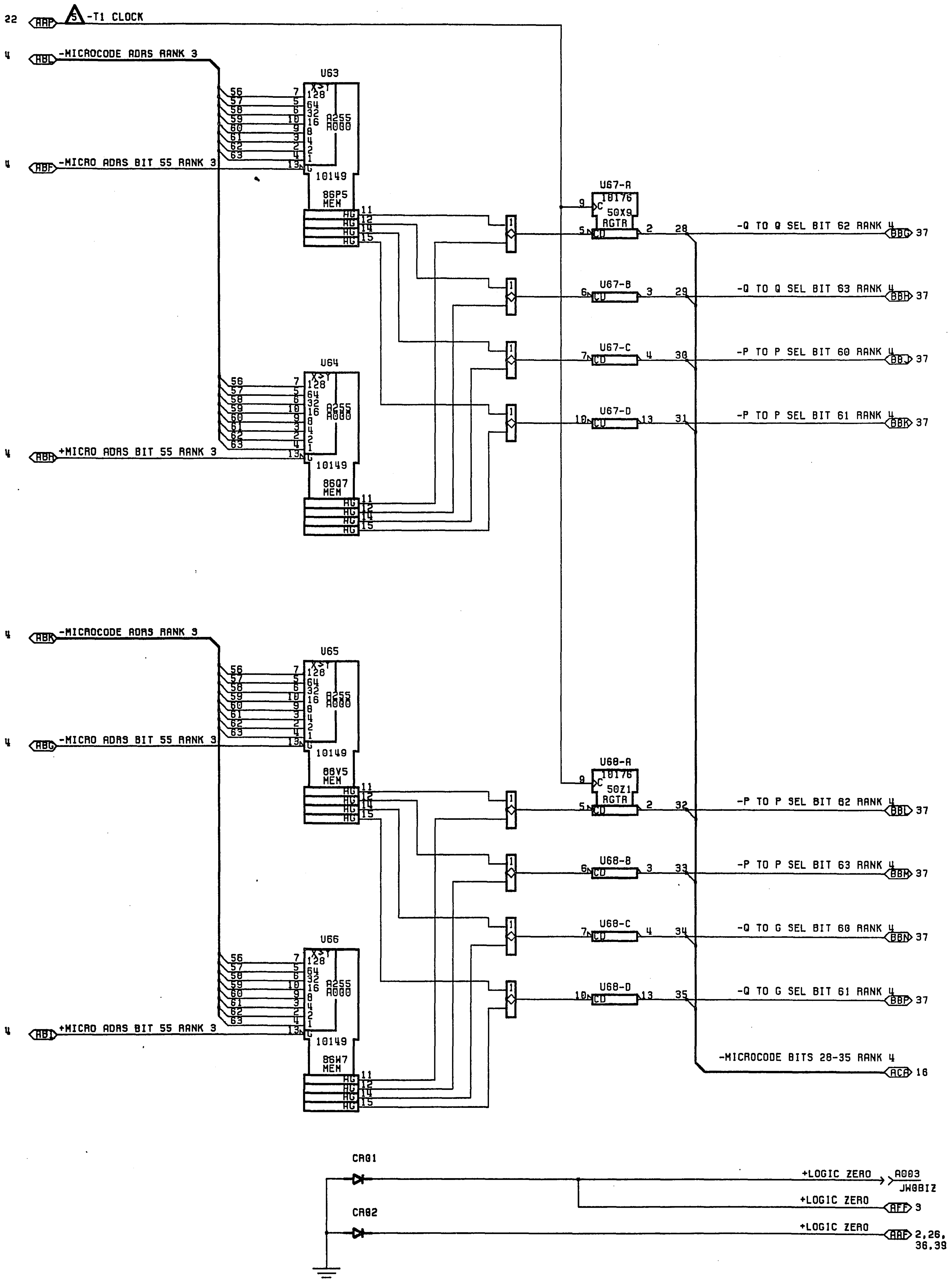

22 TIA -DELAYED T1 CLOCK
22 AAU -T1 CLOCK
3 AAR -MICROCODE ADRS RANK 2
3 55A -MICRO ADRS BIT 55 RANK 2
3 P55 +MICRO ADRS BIT 55 RANK 2
30 AEA -MAC WRITE RANK 3
22 AAQ -T1 CLOCK
4 ABM -MICROCODE ADRS RANK 3
4 ABE -MICRO ADRS BIT 55 RANK 3
4 ABA +MICRO ADRS BIT 55 RANK 3
U56 10149 59H1 MEM A255 A000
U57 10149 59I3 MEM A255 A000
U58 10149 86K7 MEM A255 A000
U59 10149 86L9 MEM A255 A000
56 57 58 59 60 61 62 63
X>Y 128 64 32 16 8 4 2 1 G
HG 11 12 14 15
U186-A 10176 50B1 AGTR
U186-B
U186-C
U186-D
U60-A 10176 23H1 AGTR
U60-B
U60-C
U60-D
U61-D 10104 14U3
U62-A 10176 59H7 AGTR
U62-B
U62-C
U62-D
C CD
-JW0 ZERO TO G RANK 3 A091 JW0ZTG
+ADU TO Y RANK 4 ABX 30
+A TO CHANNEL RANK 3 ABY 21
-EXIT RANK 4 BBB 37
-JW0 16 BIT MODE RANK 3 A104 JW016B
+JW0 16 BIT MODE RANK 3 A078 JW0N16
-A TO A SEL BIT 61 RANK 4 BBC 37
-A TO A SEL BIT 62 RANK 4 BBD 37
-A TO A SEL BIT 63 RANK 4 BBE 37
-Q TO Q SEL BIT 61 RANK 4 BBF 37
-MICROCODE BITS 20-27 RANK 4 ABZ 16
20 21 22 23 24 25 26 27

5 TOTAL LINE LENGTH 12 INCHES OR LESS

9 LINES NO LONGER THAN 12 INCHES

CONTROL DATA	MICROCODE BOARD MICROCODE BITS 20-27 TYPE 1JHH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		N	SHEET NO. 11	60462210	PAGE JW-11

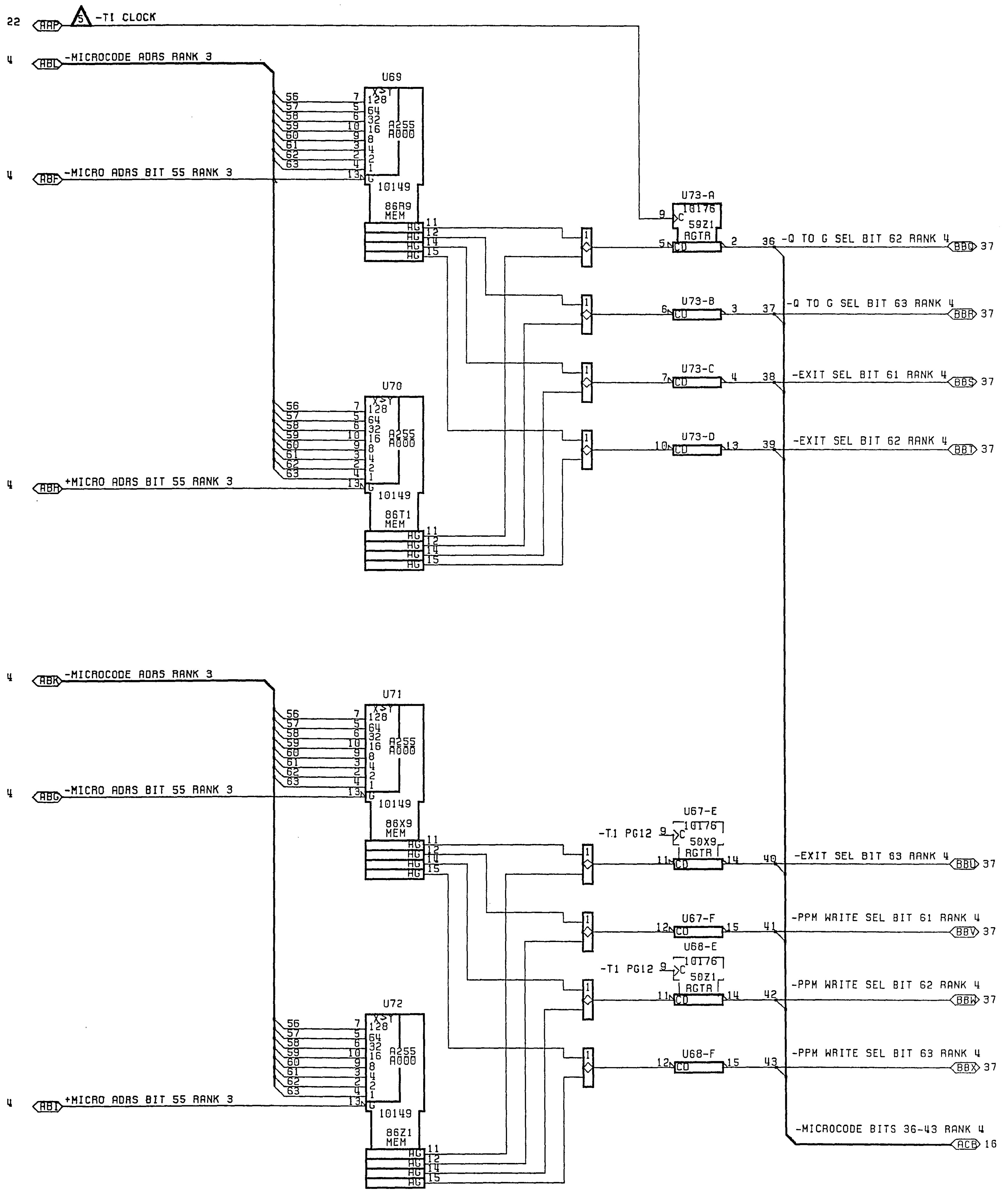
uCODE DECODERS BITS 28-35


22 AAP -T1 CLOCK
4 ABL -MICROCODE ADRS RANK 3
4 ABF -MICRO ADRS BIT 55 RANK 3
U63 X>Y 128 64 32 16 8 4 2 1 G A255 A000 10149 86P5 MEM HG 11 12 14 15
U64 10149 86Q7 MEM
4 ABH +MICRO ADRS BIT 55 RANK 3
4 ABK -MICROCODE ADRS RANK 3
4 ABG -MICRO ADRS BIT 55 RANK 3
U65 10149 86V5 MEM
U66 10149 86W7 MEM
4 ABI +MICRO ADRS BIT 55 RANK 3
56 57 58 59 60 61 62 63
U67-A 10176 50X9 RGTR C CD
U67-B
U67-C
U67-D
U68-A 10176 50Z1 RGTR
U68-B
U68-C
U68-D
28 -Q TO Q SEL BIT 62 RANK 4 BBG 37
29 -Q TO Q SEL BIT 63 RANK 4 BBH 37
30 -P TO P SEL BIT 60 RANK 4 BBJ 37
31 -P TO P SEL BIT 61 RANK 4 BBK 37
32 -P TO P SEL BIT 62 RANK 4 BBL 37
33 -P TO P SEL BIT 63 RANK 4 BBM 37
34 -Q TO G SEL BIT 60 RANK 4 BBN 37
35 -Q TO G SEL BIT 61 RANK 4 BBP 37
-MICROCODE BITS 28-35 RANK 4 ACA 16
CR01
CR02
+LOGIC ZERO A003 JW0BIZ
+LOGIC ZERO AFF 3
+LOGIC ZERO AAA 2,26, 36,39

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD MICROCODE BITS 28-35 TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 12	60462210	PAGE JW-12	

uCODE DECODERS BITS 36-43


22 AAP -T1 CLOCK
4 ABL -MICROCODE ADRS RANK 3
4 ABF -MICRO ADRS BIT 55 RANK 3
4 ABH +MICRO ADRS BIT 55 RANK 3
4 ABK -MICROCODE ADRS RANK 3
4 ABG -MICRO ADRS BIT 55 RANK 3
4 ABI +MICRO ADRS BIT 55 RANK 3
U69
U70
U71
U72
A255 A000
10149
86R9 MEM
86T1 MEM
86X9 MEM
86Z1 MEM
U73-A 10176 59Z1 RGTR
U73-B
U73-C
U73-D
U67-E 10176 50X9 RGTR
U67-F
U68-E 10176 50Z1 RGTR
U68-F
-T1 PG12
36 -Q TO G SEL BIT 62 RANK 4 BBQ 37
37 -Q TO G SEL BIT 63 RANK 4 BBR 37
38 -EXIT SEL BIT 61 RANK 4 BBS 37
39 -EXIT SEL BIT 62 RANK 4 BBT 37
40 -EXIT SEL BIT 63 RANK 4 BBU 37
41 -PPM WRITE SEL BIT 61 RANK 4 BBV 37
42 -PPM WRITE SEL BIT 62 RANK 4 BBW 37
43 -PPM WRITE SEL BIT 63 RANK 4 BBX 37
-MICROCODE BITS 36-43 RANK 4 ACB 16

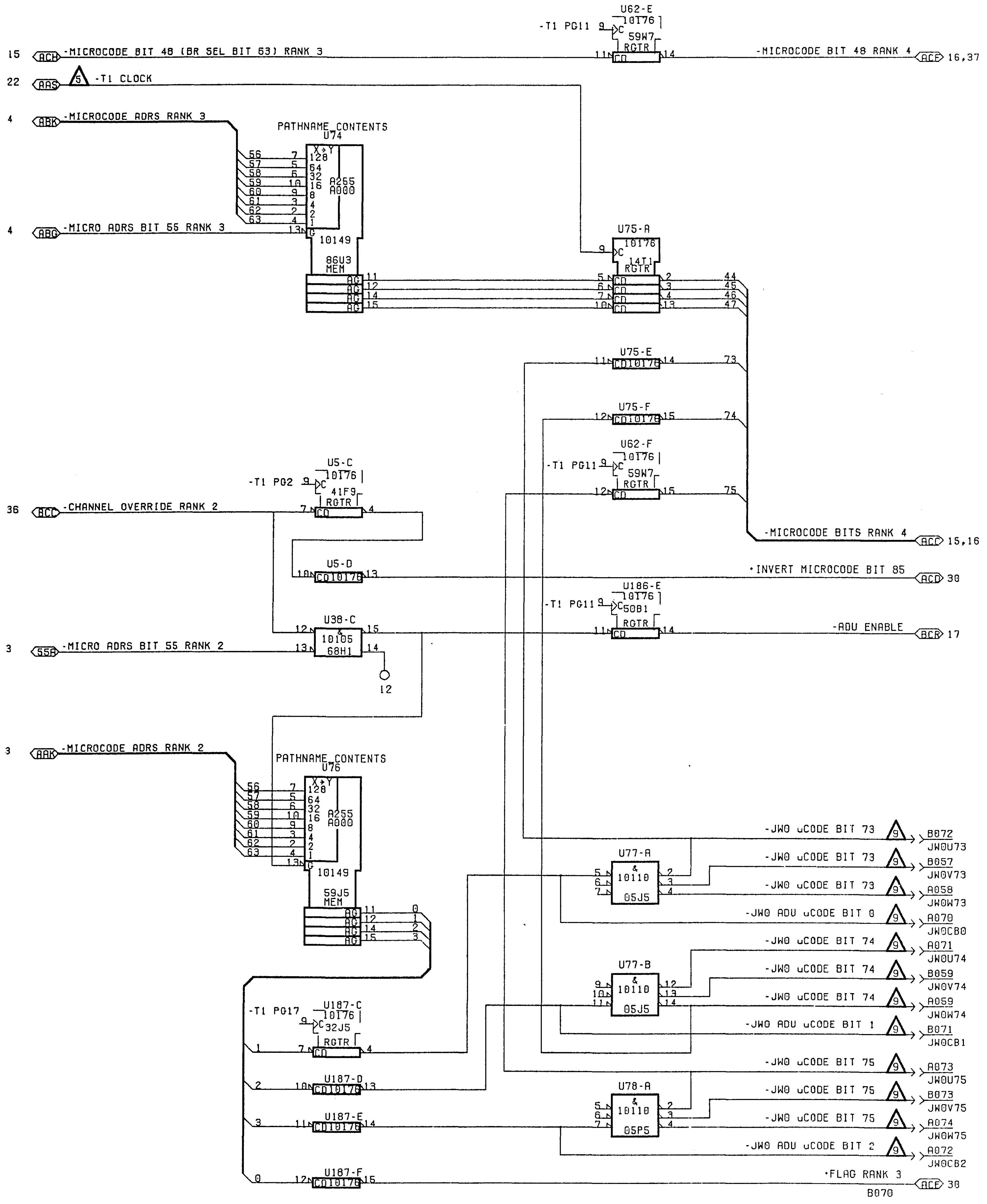
5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA

MICROCODE BOARD
MICROCODE BITS 36-43
TYPE 1JWH

	DWG NO.	DATE	REV
B	22105621	04/11/86	A
SHEET NO. 13	60462210	PAGE JW-13	

uCODE DECODERS BITS 44-47,72-75



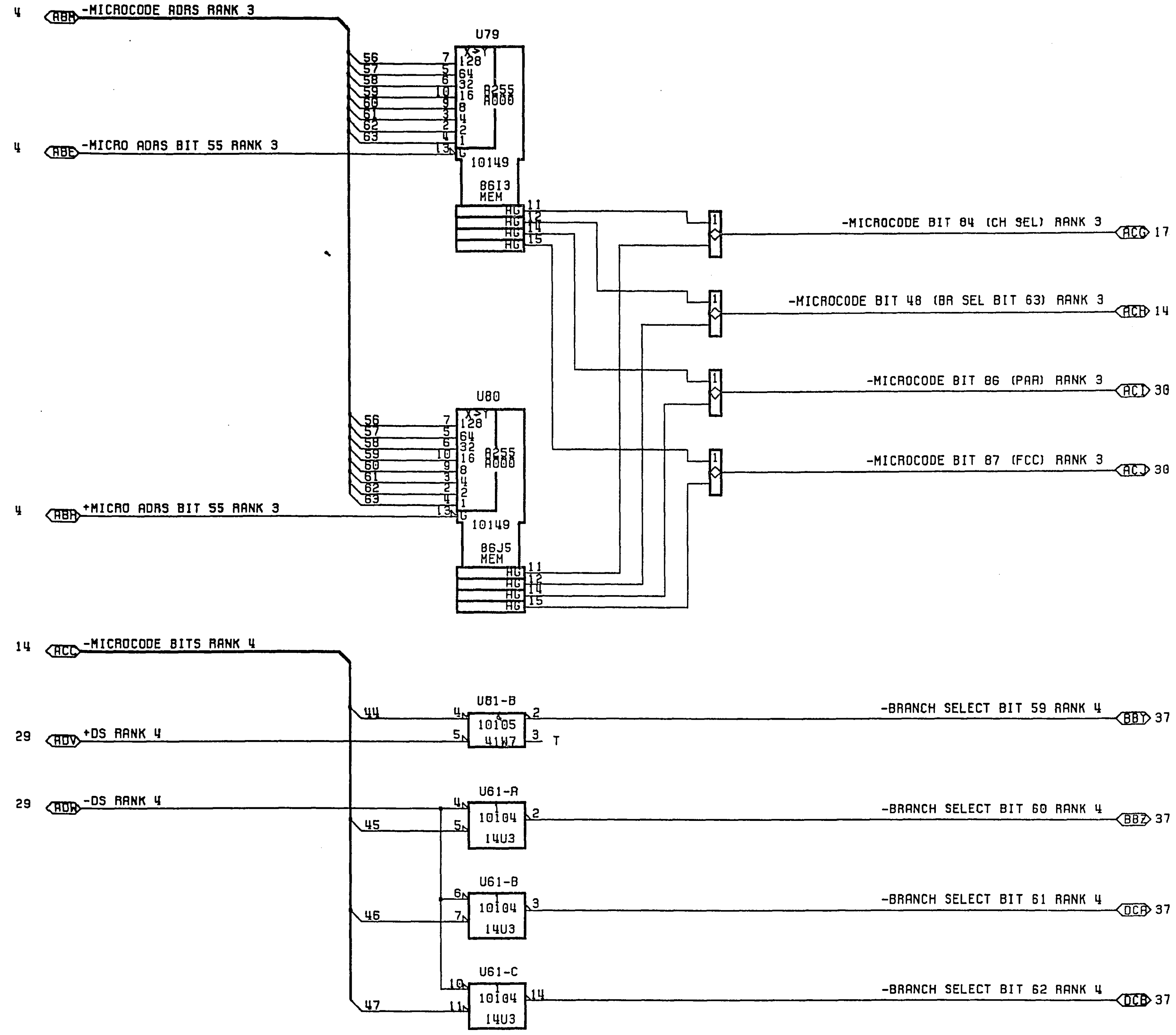
U62-E 10176 59W7 RGTR
-T1 PG11
15 ACH -MICROCODE BIT 48 (BR SEL BIT 63) RANK 3
-MICROCODE BIT 48 RANK 4 ACE 16,37
22 AAS 5 -T1 CLOCK
4 ABK -MICROCODE ADRS RANK 3
PATHNAME CONTENTS U74
A255 A000
10149
86U3 MEM
4 ABG -MICRO ADRS BIT 55 RANK 3
U75-A 10176 14T1 RGTR
44 45 46 47
U75-E 10176
73
U75-F 10176
74
U62-F 10176 59W7 RGTR
-T1 PG11
75
U5-C 10176 41F9 RGTR
-T1 PG2
36 ACC -CHANNEL OVERRIDE RANK 2
-MICROCODE BITS RANK 4 ACC 15,16
U5-D 10176
•INVERT MICROCODE BIT 85 ACD 30
U186-E 10176 50B1 RGTR
-T1 PG11
U38-C 10105 68H1
-ADU ENABLE ACR 17
12
3 55B -MICRO ADRS BIT 55 RANK 2
3 AAK -MICROCODE ADRS RANK 2
PATHNAME CONTENTS U76
A255 A000
10149
59J5 MEM
0 1 2 3
U77-A 10110 05J5
U77-B 10110 05J5
U78-A 10110 05P5
U187-C 10176 32J5 RGTR
-T1 PG17
U187-D 10176
U187-E 10176
U187-F 10176
-JWO uCODE BIT 73 9 B072 JWOU73
-JWO uCODE BIT 73 9 B057 JWOV73
-JWO uCODE BIT 73 9 A058 JWOW73
-JWO ADU uCODE BIT 0 9 A070 JWOCB0
-JWO uCODE BIT 74 9 A071 JWOU74
-JWO uCODE BIT 74 9 B059 JWOV74
-JWO uCODE BIT 74 9 A059 JWOW74
-JWO ADU uCODE BIT 1 9 B071 JWOCB1
-JWO uCODE BIT 75 9 A073 JWOU75
-JWO uCODE BIT 75 9 B073 JWOV75
-JWO uCODE BIT 75 9 A074 JWOW75
-JWO ADU uCODE BIT 2 9 A072 JWOCB2
•FLAG RANK 3 ACE 30
B070

5 TOTAL LINE LENGTH 12 INCHES OR LESS

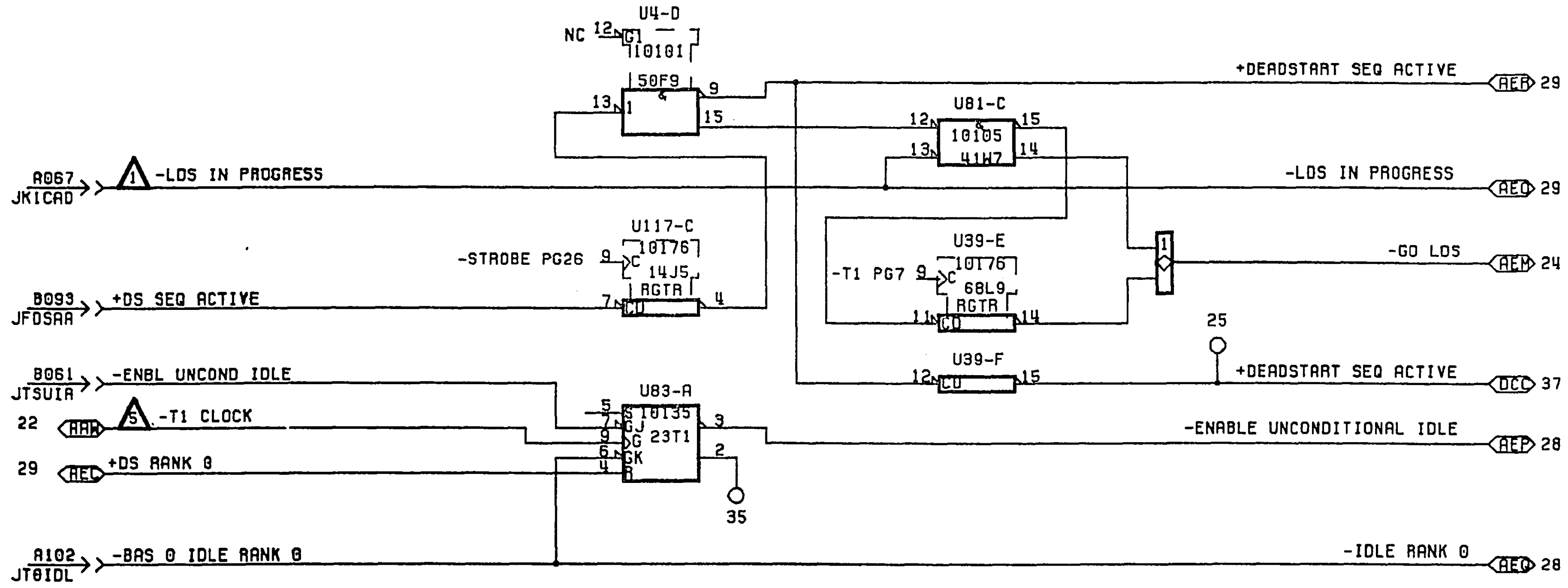
9 LINES NO LONGER THAN 12 INCHES

CONTROL DATA	MICROCODE BOARD MICROCODE BITS 44-47,72-75	B	DWG NO. 22105621	DATE 06/14/88	REV B
	TYPE 1JWH	N	SHEET NO. 14	60462210	PAGE JW-14

uCODE ROMS


4 ABA -MICROCODE ADRS RANK 3
4 ABE -MICRO ADRS BIT 55 RANK 3
4 ABA +MICRO ADRS BIT 55 RANK 3
U79
256 A000
10149
86I3 MEM
U80
256 A000
10149
86J5 MEM
56
57
58
59
60
61
62
63
-MICROCODE BIT 84 (CH SEL) RANK 3 ACG 17
-MICROCODE BIT 48 (BR SEL BIT 63) RANK 3 ACH 14
-MICROCODE BIT 86 (PAR) RANK 3 ACI 30
-MICROCODE BIT 87 (FCC) RANK 3 ACJ 30
14 ACC -MICROCODE BITS RANK 4
29 ADV +DS RANK 4
29 ADW -DS RANK 4
44
45
46
47
U81-B
10105
41H7
U61-A
10104
14U3
U61-B
10104
14U3
U61-C
10104
14U3
T
-BRANCH SELECT BIT 59 RANK 4 BBY 37
-BRANCH SELECT BIT 60 RANK 4 BBZ 37
-BRANCH SELECT BIT 61 RANK 4 DCA 37
-BRANCH SELECT BIT 62 RANK 4 DCB 37

DEADSTART



△1 DO NOT TERMINATE

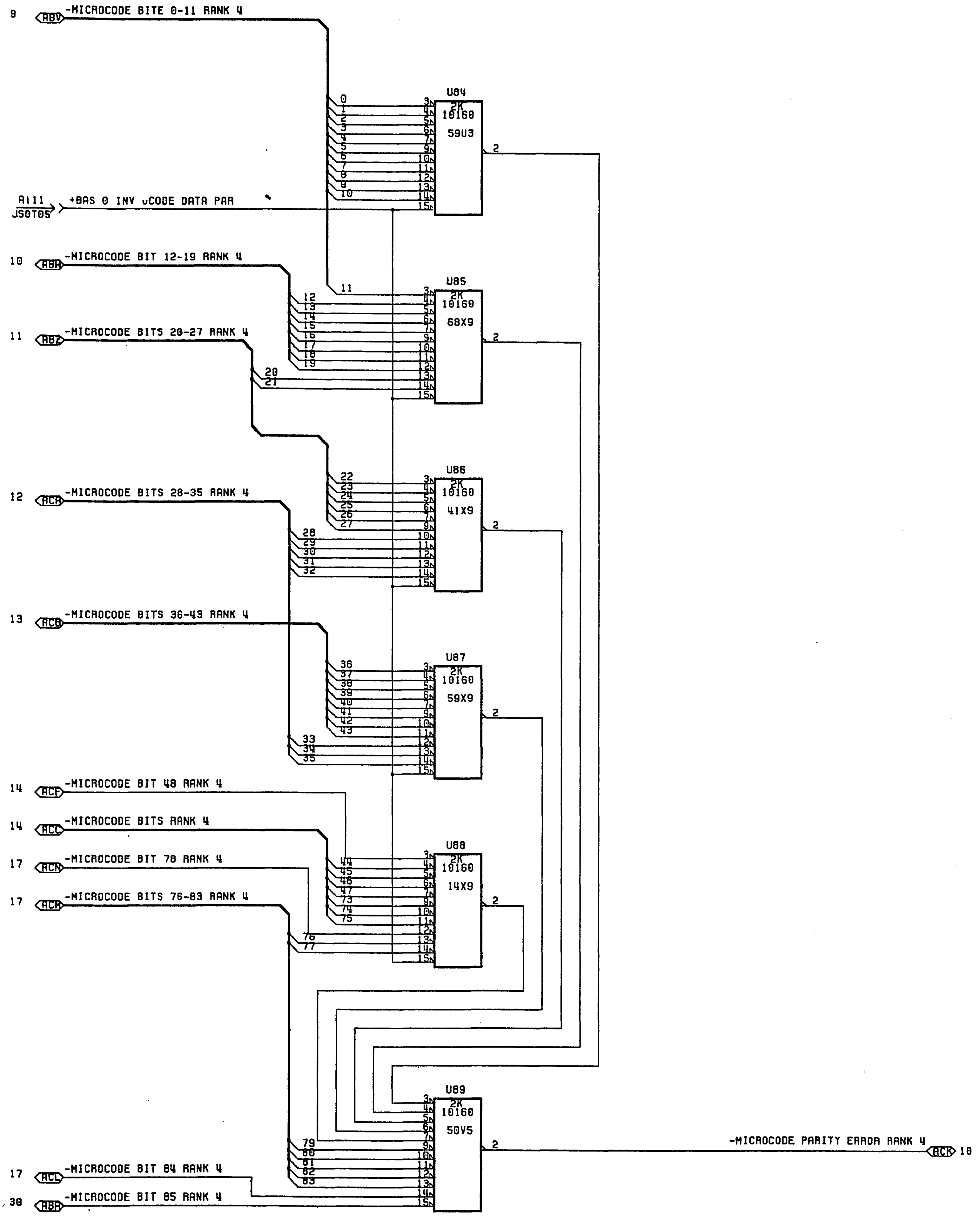
△5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA

MICROCODE BOARD
MICROCODE ROMS
DEADSTART
TYPE 1JWH

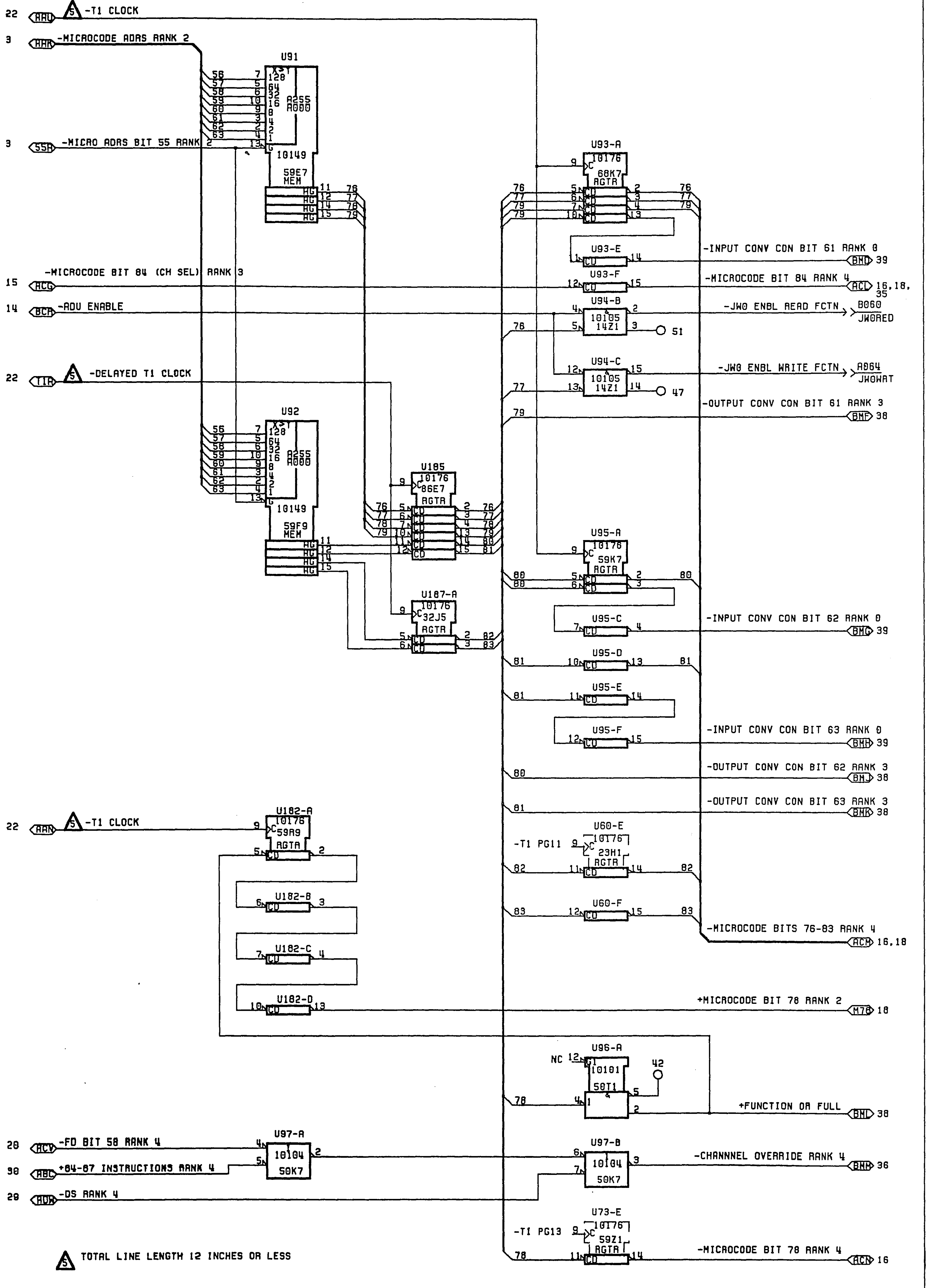
B
DWG NO. 22105621
DATE 04/11/86
REV A
SHEET NO. 15
60462210
PAGE JW-15

uCODE PAR CHECKER

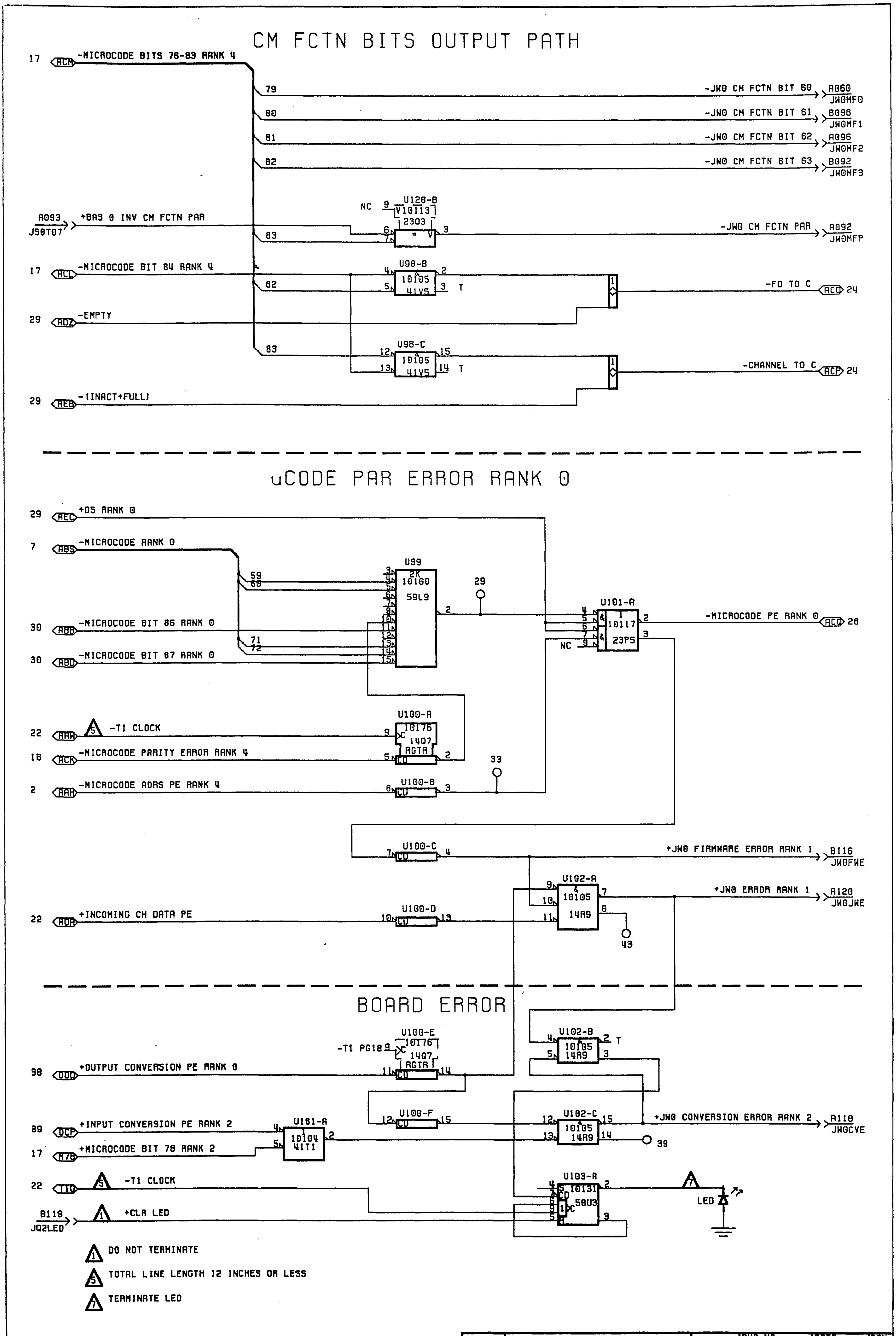

9 ABV -MICROCODE BITE 0-11 RANK 4
A111 JS0T05 +BAS 0 INV uCODE DATA PAR
10 ABW -MICROCODE BIT 12-19 RANK 4
11 ABZ -MICROCODE BITS 20-27 RANK 4
12 ACA -MICROCODE BITS 28-35 RANK 4
13 ACB -MICROCODE BITS 36-43 RANK 4
14 ACF -MICROCODE BIT 48 RANK 4
14 ACC -MICROCODE BITS RANK 4
17 ACN -MICROCODE BIT 78 RANK 4
17 ACM -MICROCODE BITS 76-83 RANK 4
17 ACL -MICROCODE BIT 84 RANK 4
30 ABR -MICROCODE BIT 85 RANK 4
U84 2K 10160 59U3
U85 2K 10160 68X9
U86 2K 10160 41X9
U87 2K 10160 59X9
U88 2K 10160 14X9
U89 2K 10160 50V5
-MICROCODE PARITY ERROR RANK 4 ACR 18

CONTROL DATA	MICROCODE BOARD MICROCODE PARITY CHECKER	B	DWG NO. 22105621	DATE 04/11/86	REV A
	TYPE 1JWH	SHEET NO. 16	60462210	PAGE JW-16	

uCODE DECODERS BITS 76-83


22 AAU -T1 CLOCK
3 AAK -MICROCODE ADRS RANK 2
3 55A -MICRO ADRS BIT 55 RANK 2
15 ACG -MICROCODE BIT 84 (CH SEL) RANK 3
14 BCA -ADU ENABLE
22 T1A -DELAYED T1 CLOCK
22 AAN -T1 CLOCK
28 ACV -FD BIT 58 RANK 4
38 ABL +84-87 INSTRUCTIONS RANK 4
29 ADA -DS RANK 4
U91 128 64 32 16 8 4 2 1 G A255 A000 10149 59E7 MEM
U92 128 64 32 16 8 4 2 1 G A255 A000 10149 59F9 MEM
U93-A 10176 68K7 AGTR
U93-E
U93-F
U94-B 10105 14Z1
U94-C 10105 14Z1
U105 10176 86E7 AGTR
U95-A 10176 59K7 AGTR
U95-C
U95-D
U95-E
U95-F
U107-A 10176 32J5 AGTR
U182-A 10176 59A9 AGTR
U182-B
U182-C
U182-D
U60-E 10176 23H1 AGTR
U60-F
U96-A 10101 58T1
U97-A 10104 50K7
U97-B 10104 50K7
U73-E 10176 59Z1 AGTR
-T1 PG11
-T1 PG13
NC
51
47
42
-INPUT CONV CON BIT 61 RANK 0 BMD 39
-MICROCODE BIT 84 RANK 4 ACI 16,18,35
-JWO ENBL READ FCTN B060 JWORED
-JWO ENBL WRITE FCTN A064 JWOWRT
-OUTPUT CONV CON BIT 61 RANK 3 BMF 38
-INPUT CONV CON BIT 62 RANK 0 BMG 39
-INPUT CONV CON BIT 63 RANK 0 BMH 39
-OUTPUT CONV CON BIT 62 RANK 3 BMJ 38
-OUTPUT CONV CON BIT 63 RANK 3 BMK 38
-MICROCODE BITS 76-83 RANK 4 ACM 16,18
+MICROCODE BIT 78 RANK 2 M78 18
+FUNCTION OR FULL BHL 38
-CHANNNEL OVERRIDE RANK 4 BHM 36
-MICROCODE BIT 78 RANK 4 ACN 16
5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD MICROCODE BITS 76-83 TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		N	SHEET NO. 17	60462210	PAGE JW-17


CM FCTN BITS OUTPUT PATH
17 ACM -MICROCODE BITS 76-83 RANK 4
79 -JW0 CM FCTN BIT 60 A060 JW0MF0
80 -JW0 CM FCTN BIT 61 B096 JW0MF1
81 -JW0 CM FCTN BIT 62 A096 JW0MF2
82 -JW0 CM FCTN BIT 63 B092 JW0MF3
A093 J58T07 +BAS 0 INV CM FCTN PAR
NC 9 U120-B V10113 2303
83
-JW0 CM FCTN PAR A092 JW0MFP
17 ACL -MICROCODE BIT 84 RANK 4
U98-B 10105 41V5
82
-FD TO C ACO 24
29 ADZ -EMPTY
83
U98-C 10105 41V5
-CHANNEL TO C ACP 24
29 AEB -(INACT+FULL)
uCODE PAR ERROR RANK 0
29 AEC +DS RANK 0
7 ABS -MICROCODE RANK 0
59 60 71 72
U99 2K 10160 59L9
29
U101-A 10117 23P5
-MICROCODE PE RANK 0 ACQ 28
NC
30 ABB -MICROCODE BIT 86 RANK 0
30 ABD -MICROCODE BIT 87 RANK 0
U100-A 10176 14Q7 AGTR
22 AAK -T1 CLOCK
16 ACK -MICROCODE PARITY ERROR RANK 4
2 AAH -MICROCODE ADRS PE RANK 4
U100-B
33
U100-C
+JW0 FIRMWARE ERROR RANK 1 B116 JW0FWE
U102-A 10105 14A9
+JW0 ERROR RANK 1 A120 JW0JWE
22 ADA +INCOMING CH DATA PE
U100-D
43
BOARD ERROR
U102-B 10105 14A9
U100-E 10176 14Q7 AGTR
-T1 PG18
38 DDQ +OUTPUT CONVERSION PE RANK 0
U100-F
U102-C 10105 14A9
+JW0 CONVERSION ERROR RANK 2 A118 JW0CVE
39
39 DCP +INPUT CONVERSION PE RANK 2
U101-A 10104 41T1
17 N7B +MICROCODE BIT 78 RANK 2
22 T1G -T1 CLOCK
U103-A 10131 58U3
LED
B119 JQ2LED +CLR LED

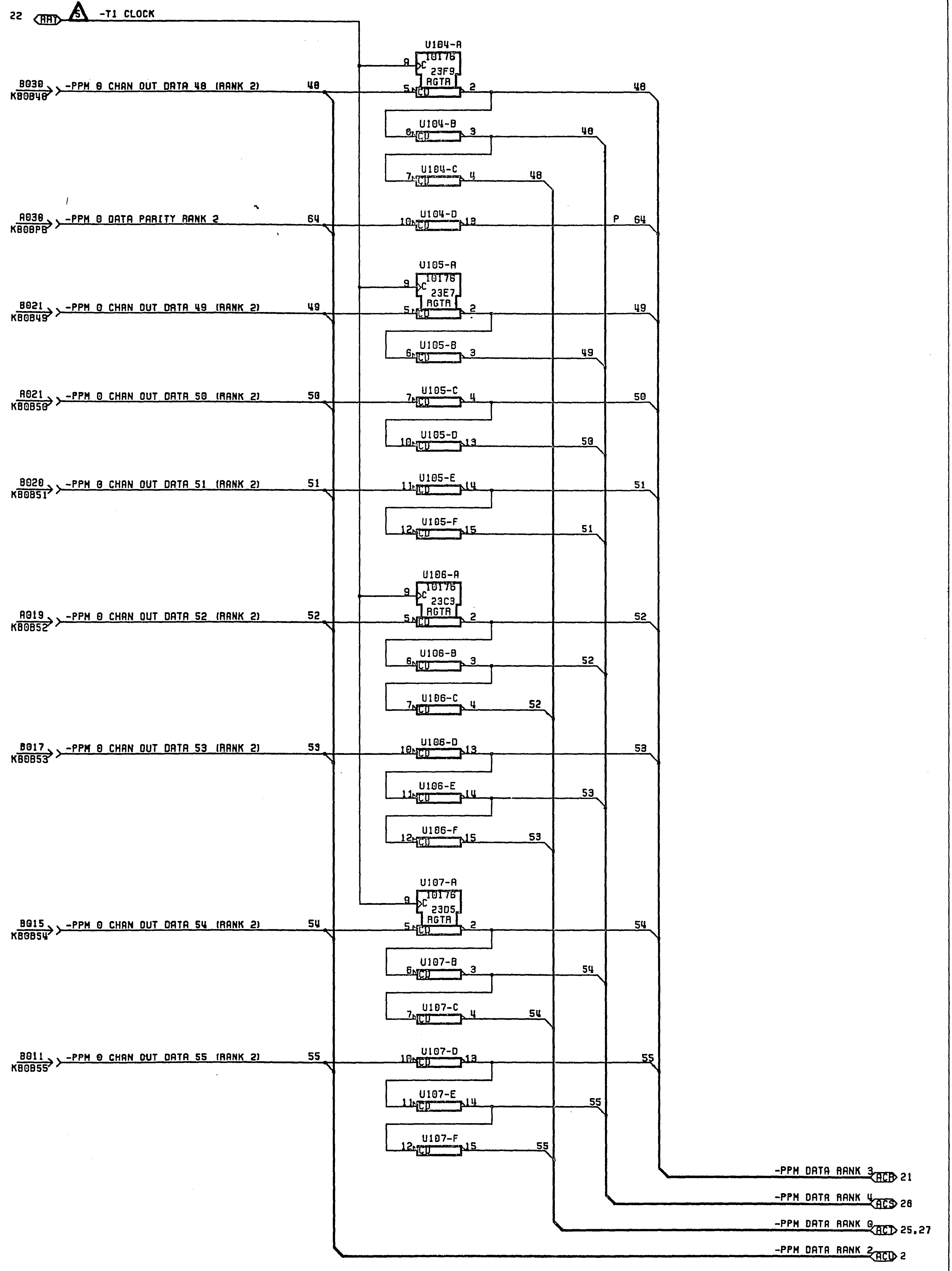
1 DO NOT TERMINATE

5 TOTAL LINE LENGTH 12 INCHES OR LESS

7 TERMINATE LED

CONTROL DATA	MICROCODE BOARD MICROCODE PARITY ERROR RANK 0 CM FUNCTION BITS & BOARD ERROR TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 18	60462210	PAGE JW-18	

PPM DATA BITS 48-55 & PAR RANKS 2,3,4,0

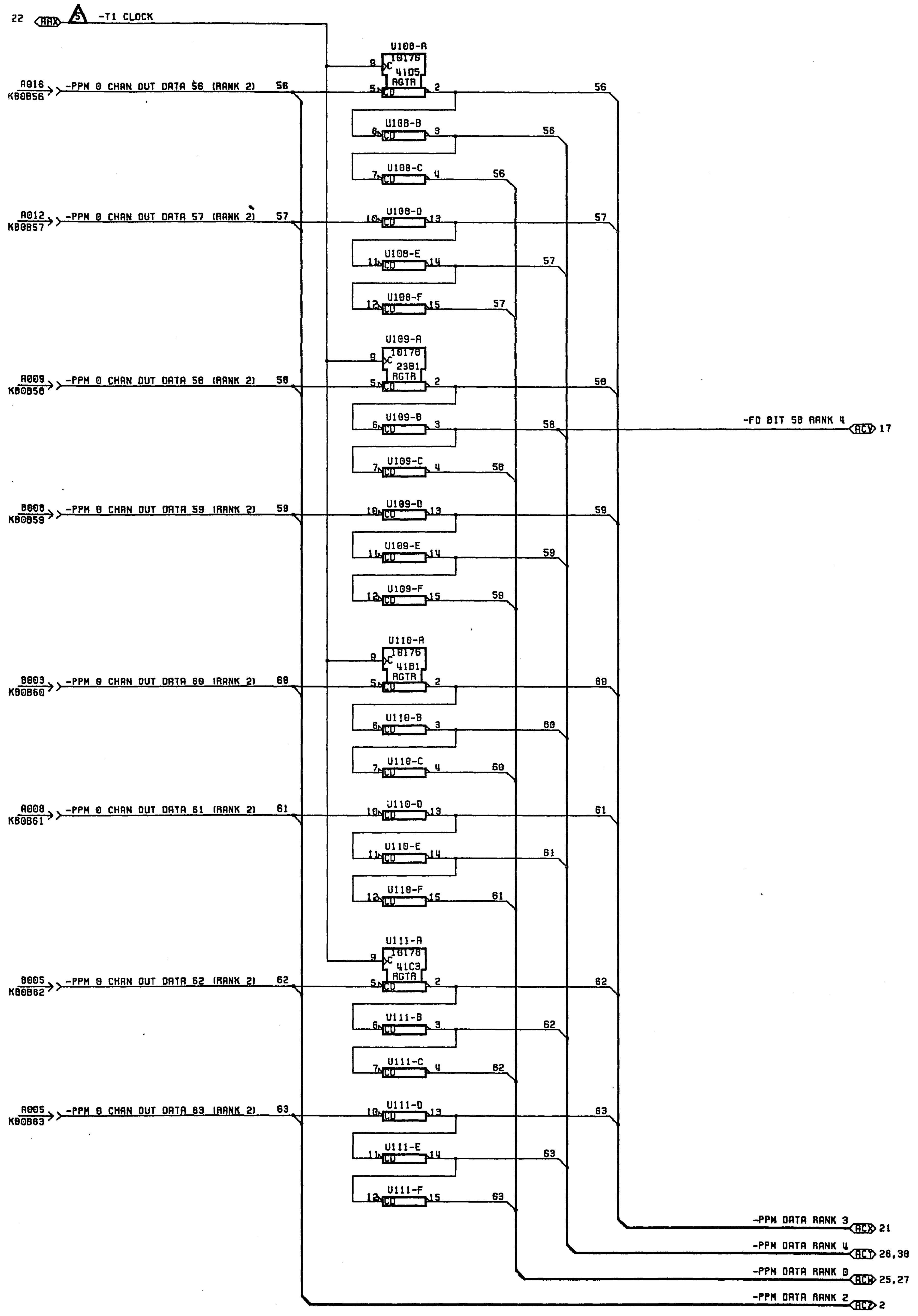


22 AAT 5 -T1 CLOCK
B030 K0B048 -PPM 0 CHAN OUT DATA 48 (RANK 2) 48
A030 K0B0P0 -PPM 0 DATA PARITY RANK 2 64
B021 K0B049 -PPM 0 CHAN OUT DATA 49 (RANK 2) 49
A021 K0B050 -PPM 0 CHAN OUT DATA 50 (RANK 2) 50
B020 K0B051 -PPM 0 CHAN OUT DATA 51 (RANK 2) 51
A019 K0B052 -PPM 0 CHAN OUT DATA 52 (RANK 2) 52
B017 K0B053 -PPM 0 CHAN OUT DATA 53 (RANK 2) 53
B015 K0B054 -PPM 0 CHAN OUT DATA 54 (RANK 2) 54
B011 K0B055 -PPM 0 CHAN OUT DATA 55 (RANK 2) 55
U104-A 10176 23F9 AGTA
U104-B
U104-C
U104-D
P 64
U105-A 10176 23E7 AGTA
U105-B
U105-C
U105-D
U105-E
U105-F
U106-A 10176 23C3 AGTA
U106-B
U106-C
U106-D
U106-E
U106-F
U107-A 10176 23D5 AGTA
U107-B
U107-C
U107-D
U107-E
U107-F
C
CD
-PPM DATA RANK 3 ACA 21
-PPM DATA RANK 4 AC5 28
-PPM DATA RANK 0 AC1 25,27
-PPM DATA RANK 2 ACD 2

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD PPM DATA BITS 48-55 & P RANKS 2,3,4,0 TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 19	60462210	PAGE JW-19	

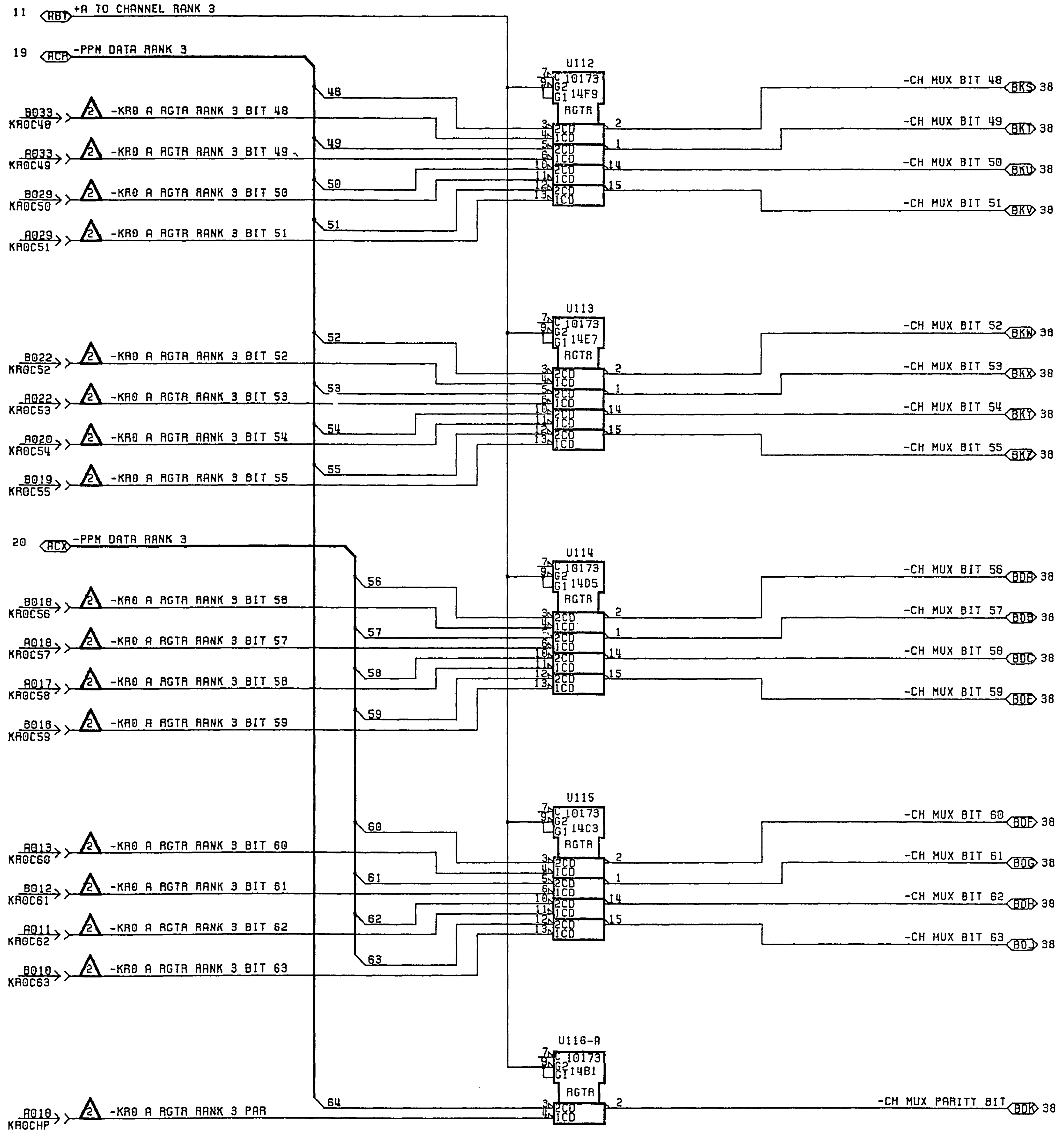
PPM DATA BITS 56-63 RANKS 2,3,4,0


22 AAX 5 -T1 CLOCK
U108-A 10176 41D5 AGTR
U109-A 10176 23B1 AGTR
U110-A 10176 41B1 AGTR
U111-A 10176 41C3 AGTR
A016 K00B56 -PPM 0 CHAN OUT DATA 56 (RANK 2) 56
A012 K00B57 -PPM 0 CHAN OUT DATA 57 (RANK 2) 57
A009 K00B58 -PPM 0 CHAN OUT DATA 58 (RANK 2) 58
B008 K00B59 -PPM 0 CHAN OUT DATA 59 (RANK 2) 59
B003 K00B60 -PPM 0 CHAN OUT DATA 60 (RANK 2) 60
A008 K00B61 -PPM 0 CHAN OUT DATA 61 (RANK 2) 61
B005 K00B62 -PPM 0 CHAN OUT DATA 62 (RANK 2) 62
A005 K00B63 -PPM 0 CHAN OUT DATA 63 (RANK 2) 63
U108-B
U108-C
U108-D
U108-E
U108-F
U109-B
U109-C
U109-D
U109-E
U109-F
U110-B
U110-C
U110-D
U110-E
U110-F
U111-B
U111-C
U111-D
U111-E
U111-F
-FD BIT 58 RANK 4 ACV 17
-PPM DATA RANK 3 ACV 21
-PPM DATA RANK 4 ACT 26,30
-PPM DATA RANK 0 ACW 25,27
-PPM DATA RANK 2 ACZ 2

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD PPM DATA BITS 56-63 RANKS 2,3,4,0 TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 20	60462210	PAGE JW-20	

CHAN INPUT MUX


11 +A TO CHANNEL RANK 3 (ABT)
19 (ACR) -PPM DATA RANK 3
B033 KROC48 -KR0 A RGTR RANK 3 BIT 48
A033 KROC49 -KR0 A RGTR RANK 3 BIT 49
B029 KROC50 -KR0 A RGTR RANK 3 BIT 50
A029 KROC51 -KR0 A RGTR RANK 3 BIT 51
48
49
50
51
U112 10173 14F9 RGTR
-CH MUX BIT 48 (BKS) 38
-CH MUX BIT 49 (BKT) 38
-CH MUX BIT 50 (BKU) 38
-CH MUX BIT 51 (BKV) 38
B022 KROC52 -KR0 A RGTR RANK 3 BIT 52
A022 KROC53 -KR0 A RGTR RANK 3 BIT 53
A020 KROC54 -KR0 A RGTR RANK 3 BIT 54
B019 KROC55 -KR0 A RGTR RANK 3 BIT 55
52
53
54
55
U113 10173 14E7 RGTR
-CH MUX BIT 52 (BKW) 38
-CH MUX BIT 53 (BKX) 38
-CH MUX BIT 54 (BKY) 38
-CH MUX BIT 55 (BKZ) 38
20 (ACX) -PPM DATA RANK 3
B018 KROC56 -KR0 A RGTR RANK 3 BIT 56
A018 KROC57 -KR0 A RGTR RANK 3 BIT 57
A017 KROC58 -KR0 A RGTR RANK 3 BIT 58
B016 KROC59 -KR0 A RGTR RANK 3 BIT 59
56
57
58
59
U114 10173 14D5 RGTR
-CH MUX BIT 56 (BDA) 38
-CH MUX BIT 57 (BDB) 38
-CH MUX BIT 58 (BDC) 38
-CH MUX BIT 59 (BDE) 38
A013 KROC60 -KR0 A RGTR RANK 3 BIT 60
B012 KROC61 -KR0 A RGTR RANK 3 BIT 61
A011 KROC62 -KR0 A RGTR RANK 3 BIT 62
B010 KROC63 -KR0 A RGTR RANK 3 BIT 63
60
61
62
63
U115 10173 14C3 RGTR
-CH MUX BIT 60 (BDF) 38
-CH MUX BIT 61 (BDG) 38
-CH MUX BIT 62 (BDH) 38
-CH MUX BIT 63 (BDJ) 38
U116-A 10173 14B1 RGTR
A010 KROCHP -KR0 A RGTR RANK 3 PAR
64
-CH MUX PARITY BIT (BDK) 38
C G2 G1 2CD 1CD
7 9 3 4 5 6 10 11 12 13
2 1 14 15

CHAN INPUT MUX	
0	A RGTR RANK 3
1	PPM BITS RANK 3

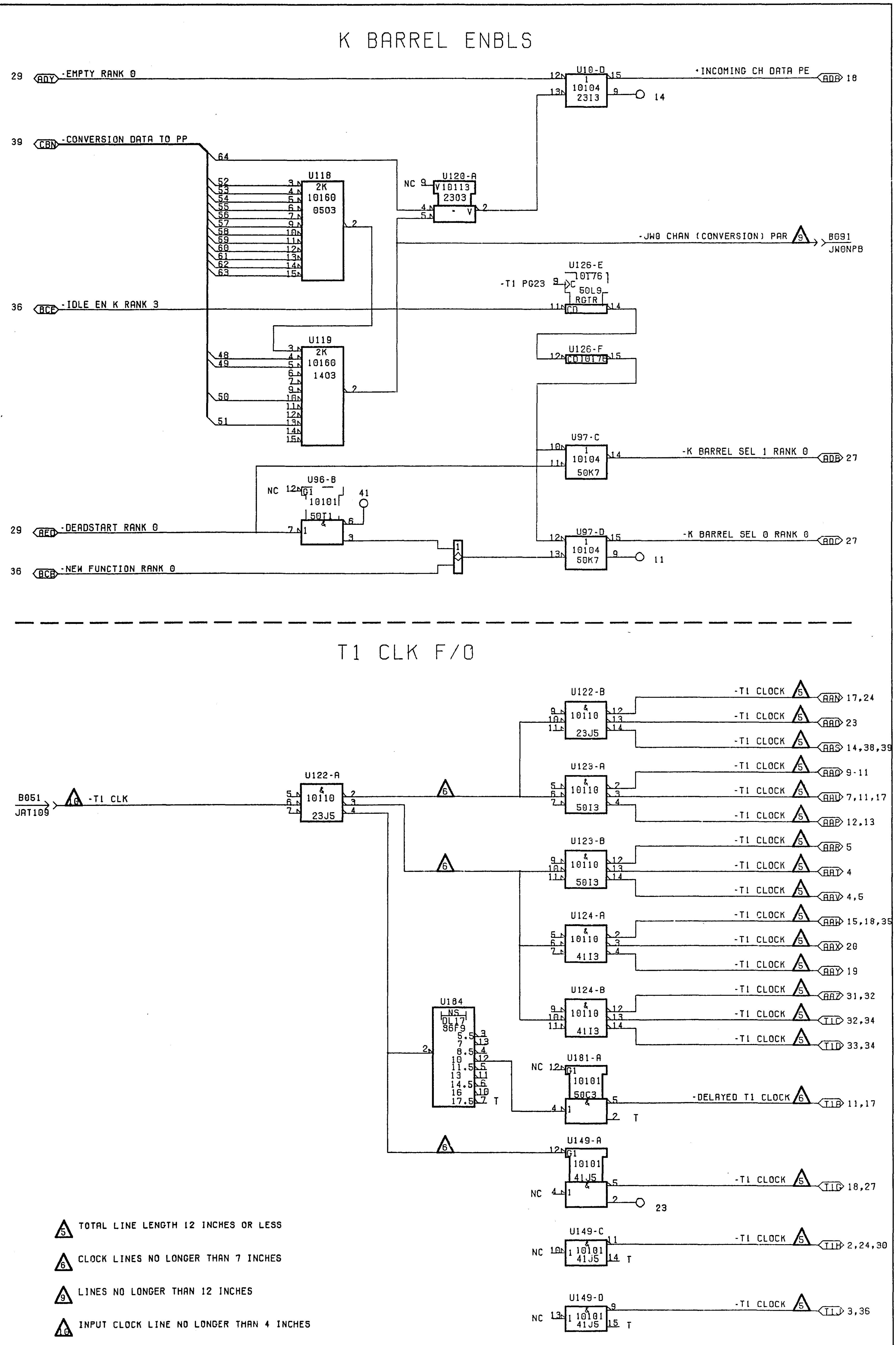
2 NOT TERMINATED AND LINES NO LONGER THAN 12 INCHES

CONTROL DATA

MICROCODE BOARD
CHANNEL INPUT MUX

TYPE 1JWH

B	DWG NO. 22105621		DATE 04/11/86	REV A
SHEET NO. 21		60462210	PAGE JW-21	



5 TOTAL LINE LENGTH 12 INCHES OR LESS

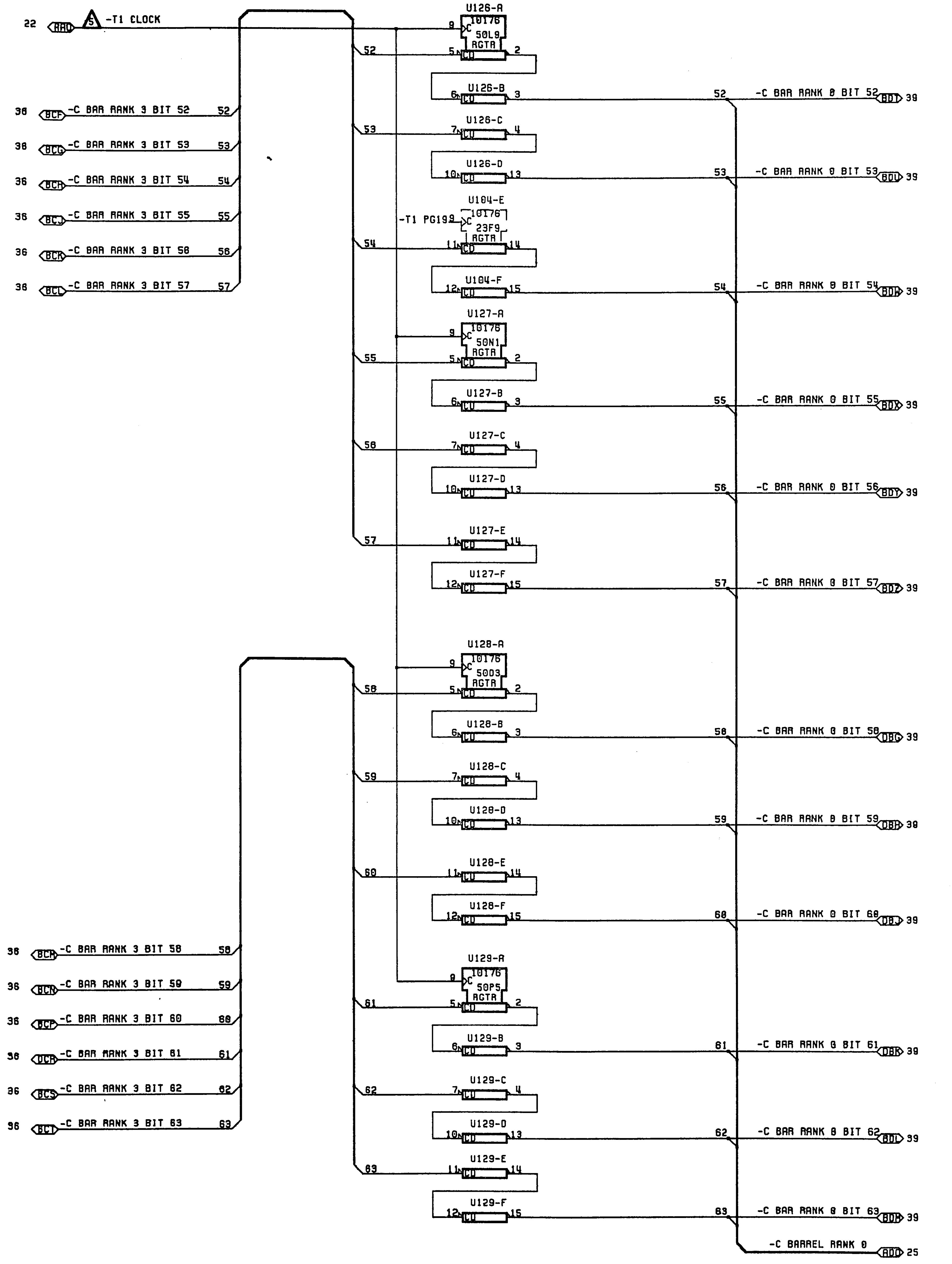
6 CLOCK LINES NO LONGER THAN 7 INCHES

9 LINES NO LONGER THAN 12 INCHES

10 INPUT CLOCK LINE NO LONGER THAN 4 INCHES

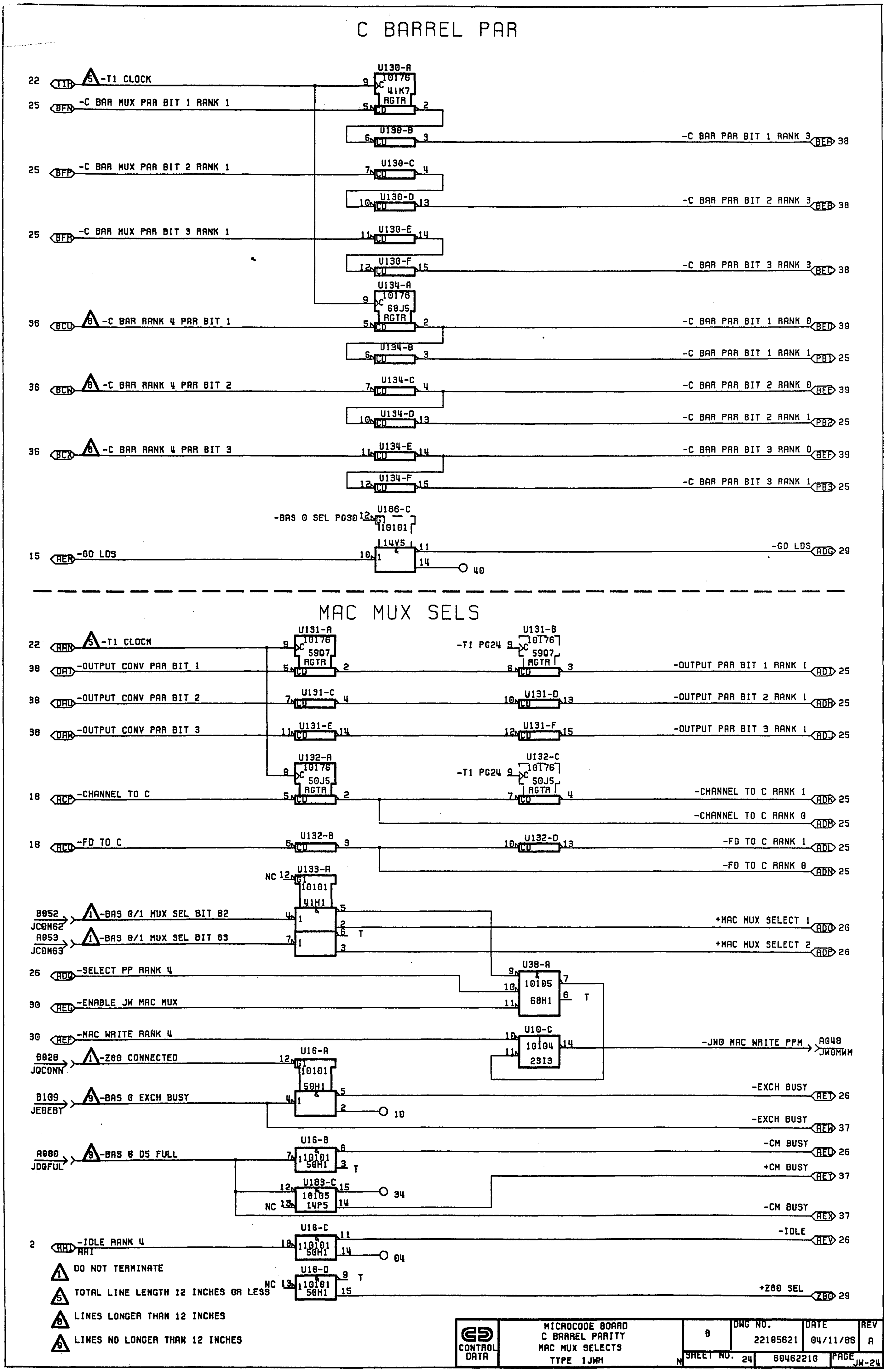
CONTROL DATA	MICROCODE BOARD K BARREL ENABLES T1 CLOCK FANOUT TYPE 1JWH	B	DWG NO. 22105621	DATE 06/14/88	REV B
			SHEET NO. 22	60462210	PAGE JW-22

C BARREL BITS 52-63 RANKS 4 & 0


22 AAD -T1 CLOCK
36 BCF -C BAR RANK 3 BIT 52
36 BCG -C BAR RANK 3 BIT 53
36 BCH -C BAR RANK 3 BIT 54
36 BCJ -C BAR RANK 3 BIT 55
36 BCK -C BAR RANK 3 BIT 56
36 BCL -C BAR RANK 3 BIT 57
36 BCM -C BAR RANK 3 BIT 58
36 BCN -C BAR RANK 3 BIT 59
36 BCP -C BAR RANK 3 BIT 60
36 BCR -C BAR RANK 3 BIT 61
36 BCS -C BAR RANK 3 BIT 62
36 BCT -C BAR RANK 3 BIT 63
U126-A 10176 50L9 RGTR
U126-B
U126-C
U126-D
U104-E 10176 23F9 RGTR
-T1 PG19
U104-F
U127-A 10176 50N1 RGTR
U127-B
U127-C
U127-D
U127-E
U127-F
U128-A 10176 50O3 RGTR
U128-B
U128-C
U128-D
U128-E
U128-F
U129-A 10176 50P5 RGTR
U129-B
U129-C
U129-D
U129-E
U129-F
CD
C
-C BAR RANK 0 BIT 52 BDT 39
-C BAR RANK 0 BIT 53 BDU 39
-C BAR RANK 0 BIT 54 BDW 39
-C BAR RANK 0 BIT 55 BDX 39
-C BAR RANK 0 BIT 56 BDY 39
-C BAR RANK 0 BIT 57 BDZ 39
-C BAR RANK 0 BIT 58 DBG 39
-C BAR RANK 0 BIT 59 DBH 39
-C BAR RANK 0 BIT 60 DBJ 39
-C BAR RANK 0 BIT 61 DBK 39
-C BAR RANK 0 BIT 62 BDL 39
-C BAR RANK 0 BIT 63 BDM 39
-C BARREL RANK 0 ADD 25

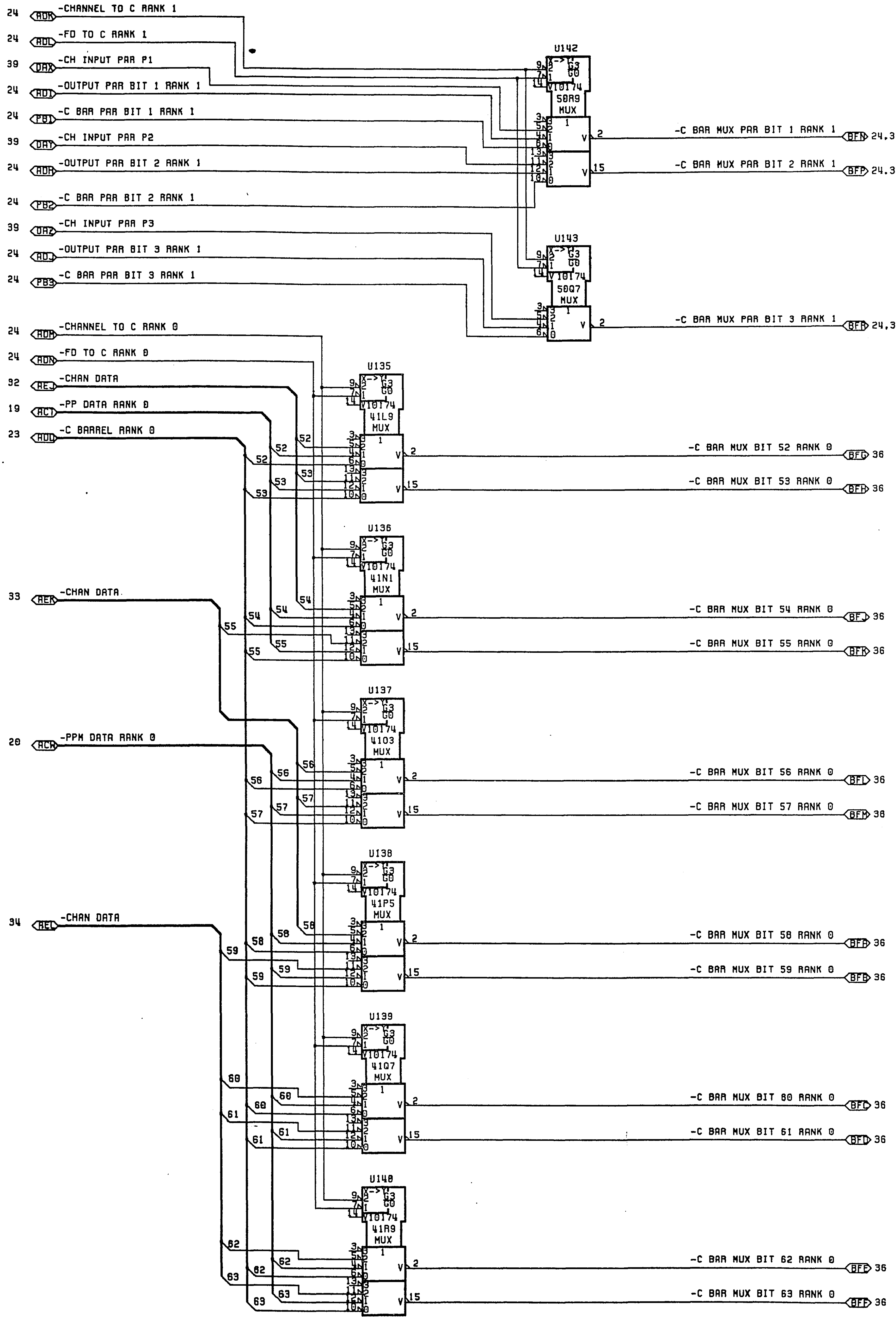
5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA
MICROCODE BOARD
C BARREL BITS 52-63
TYPE 1JWH
8
DWG NO. 22185621
DATE 04/11/86
REV A
SHEET NO. 23
60462210
PAGE JW-23


C BARREL PAR
22 T1A -T1 CLOCK
25 BFN -C BAR MUX PAR BIT 1 RANK 1
25 BFP -C BAR MUX PAR BIT 2 RANK 1
25 BFR -C BAR MUX PAR BIT 3 RANK 1
U130-A 10176 41K7 RGTR
U130-B
U130-C
U130-D
U130-E
U130-F
-C BAR PAR BIT 1 RANK 3 BEB 38
-C BAR PAR BIT 2 RANK 3 BEB 38
-C BAR PAR BIT 3 RANK 3 BEC 38
U134-A 10176 68J5 RGTR
U134-B
U134-C
U134-D
U134-E
U134-F
36 BCU -C BAR RANK 4 PAR BIT 1
36 BCW -C BAR RANK 4 PAR BIT 2
36 BCX -C BAR RANK 4 PAR BIT 3
-C BAR PAR BIT 1 RANK 0 BED 39
-C BAR PAR BIT 1 RANK 1 PB1 25
-C BAR PAR BIT 2 RANK 0 BEE 39
-C BAR PAR BIT 2 RANK 1 PB2 25
-C BAR PAR BIT 3 RANK 0 BEF 39
-C BAR PAR BIT 3 RANK 1 PB3 25
-BAS 0 SEL PG30
U166-C 10101 14V5
15 AEM -GO LDS
-GO LDS ADG 29
40
MAC MUX SELS
22 AAN -T1 CLOCK
38 DAT -OUTPUT CONV PAR BIT 1
38 DAU -OUTPUT CONV PAR BIT 2
38 DAW -OUTPUT CONV PAR BIT 3
U131-A 10176 59Q7 RGTR
-T1 PG24
U131-B 10176 59Q7 RGTR
U131-C
U131-D
U131-E
U131-F
-OUTPUT PAR BIT 1 RANK 1 ADI 25
-OUTPUT PAR BIT 2 RANK 1 ADH 25
-OUTPUT PAR BIT 3 RANK 1 ADJ 25
U132-A 10176 50J5 RGTR
U132-C 10176 50J5 RGTR
18 ACP -CHANNEL TO C
-CHANNEL TO C RANK 1 ADK 25
-CHANNEL TO C RANK 0 ADM 25
18 ACQ -FD TO C
U132-B
U132-D
-FD TO C RANK 1 ADL 25
-FD TO C RANK 0 ADN 25
NC
U133-A 10101 41H1
B052 JC0M62 -BAS 0/1 MUX SEL BIT 62
A053 JC0M63 -BAS 0/1 MUX SEL BIT 63
+MAC MUX SELECT 1 ADO 26
+MAC MUX SELECT 2 ADP 26
T
26 ADQ -SELECT PP RANK 4
30 AEG -ENABLE JW MAC MUX
U38-A 10105 68H1
30 AEF -MAC WRITE RANK 4
U10-C 10104 29I3
-JWO MAC WRITE PPM A048 JWOMWM
B028 JQCONN -Z80 CONNECTED
U16-A 10101 50H1
B109 JE0EBY -BAS 0 EXCH BUSY
-EXCH BUSY AET 26
-EXCH BUSY AEU 37
10
A080 JD0FUL -BAS 0 D5 FULL
U16-B 10101 50H1
-CM BUSY AEU 26
+CM BUSY AEY 37
U183-C 10105 14P5
34
-CM BUSY AEX 37
2 AAI -IDLE RANK 4 AAI
U16-C 10101 50H1
-IDLE AEV 26
04
U16-D 10101 50H1
+Z80 SEL Z80 29
1 DO NOT TERMINATE
5 TOTAL LINE LENGTH 12 INCHES OR LESS
8 LINES LONGER THAN 12 INCHES
9 LINES NO LONGER THAN 12 INCHES

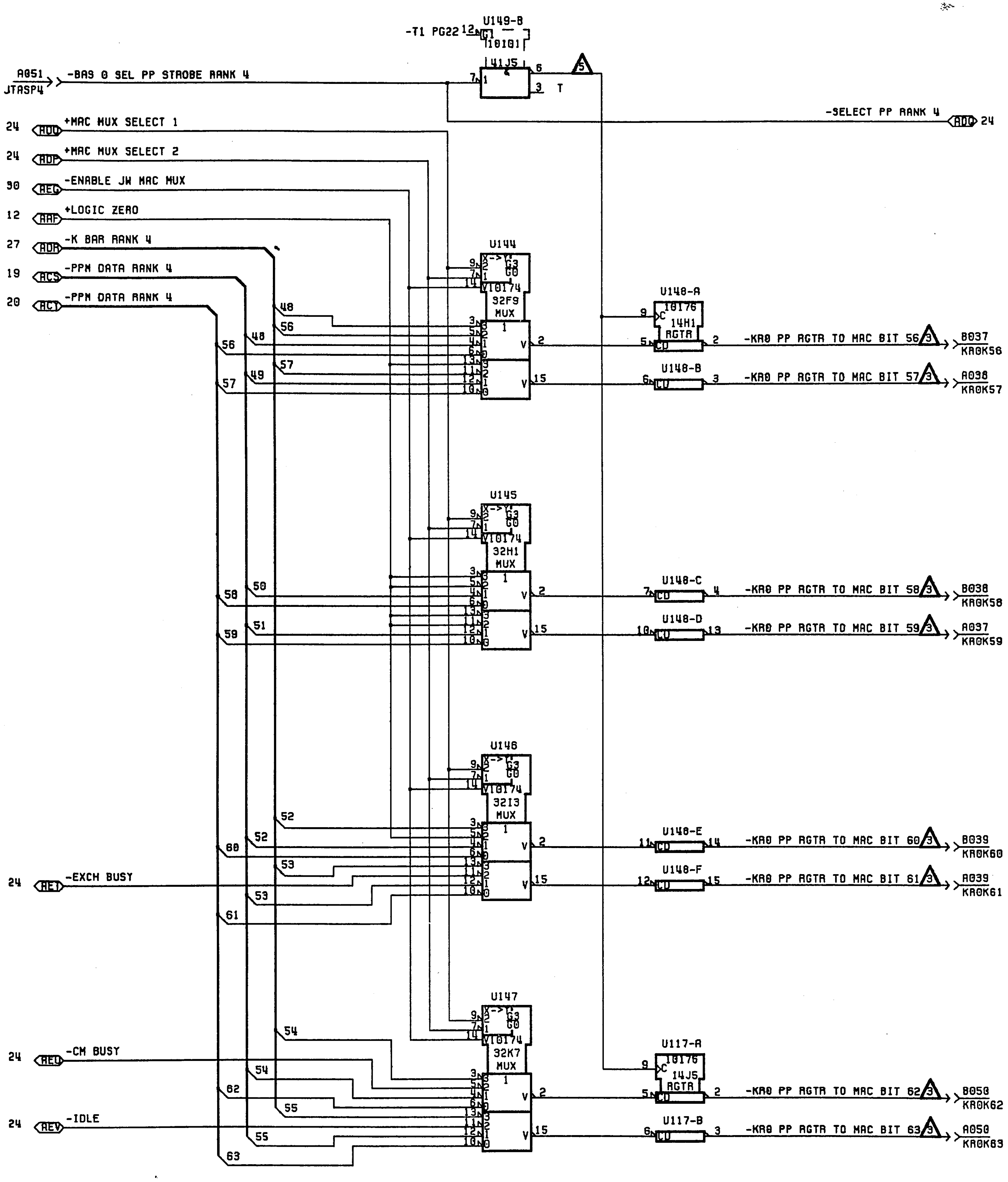
CONTROL DATA	MICROCODE BOARD C BARREL PARITY MAC MUX SELECTS TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
			SHEET NO. 24	60462210	PAGE JW-24

C BARREL INPUT MUX


24 ADK -CHANNEL TO C RANK 1
24 ADL -FD TO C RANK 1
39 DAX -CH INPUT PAR P1
24 ADI -OUTPUT PAR BIT 1 RANK 1
24 PB1 -C BAR PAR BIT 1 RANK 1
39 DAY -CH INPUT PAR P2
24 ADH -OUTPUT PAR BIT 2 RANK 1
24 PB2 -C BAR PAR BIT 2 RANK 1
39 DAZ -CH INPUT PAR P3
24 ADJ -OUTPUT PAR BIT 3 RANK 1
24 PB3 -C BAR PAR BIT 3 RANK 1
24 ADM -CHANNEL TO C RANK 0
24 ADN -FD TO C RANK 0
32 AEJ -CHAN DATA
19 ACT -PP DATA RANK 0
23 ADD -C BARREL RANK 0
33 AEK -CHAN DATA
20 ACK -PPM DATA RANK 0
34 AEL -CHAN DATA
U142 10174 50A9 MUX
U143 10174 50Q7 MUX
U135 10174 41L9 MUX
U136 10174 41N1 MUX
U137 10174 41O3 MUX
U138 10174 41P5 MUX
U139 10174 41Q7 MUX
U140 10174 41R9 MUX
X-> G3 G0
-C BAR MUX PAR BIT 1 RANK 1 BFN 24,36
-C BAR MUX PAR BIT 2 RANK 1 BFP 24.36
-C BAR MUX PAR BIT 3 RANK 1 BFR 24,36
-C BAR MUX BIT 52 RANK 0 BFG 36
-C BAR MUX BIT 53 RANK 0 BFH 36
-C BAR MUX BIT 54 RANK 0 BFJ 36
-C BAR MUX BIT 55 RANK 0 BFK 36
-C BAR MUX BIT 56 RANK 0 BFL 36
-C BAR MUX BIT 57 RANK 0 BFM 36
-C BAR MUX BIT 58 RANK 0 BFA 36
-C BAR MUX BIT 59 RANK 0 BFB 36
-C BAR MUX BIT 60 RANK 0 BFC 36
-C BAR MUX BIT 61 RANK 0 BFD 36
-C BAR MUX BIT 62 RANK 0 BFE 36
-C BAR MUX BIT 63 RANK 0 BFF 36

CONTROL DATA	MICROCODE BOARD C BARREL INPUT MUX	B	DWG NO. 22105621	DATE 04/11/86	REV A
	TYPE 1JWH	N	SHEET NO. 25	60462210	PAGE JW-25

JW MAC MUX BITS 56-63



	MUX SELECT CODE
3	K BARREL BITS 48-55
2	K BARREL BITS 56-63
1	PPM DATA BITS 48-55
0	PPM DATA BITS 56-63

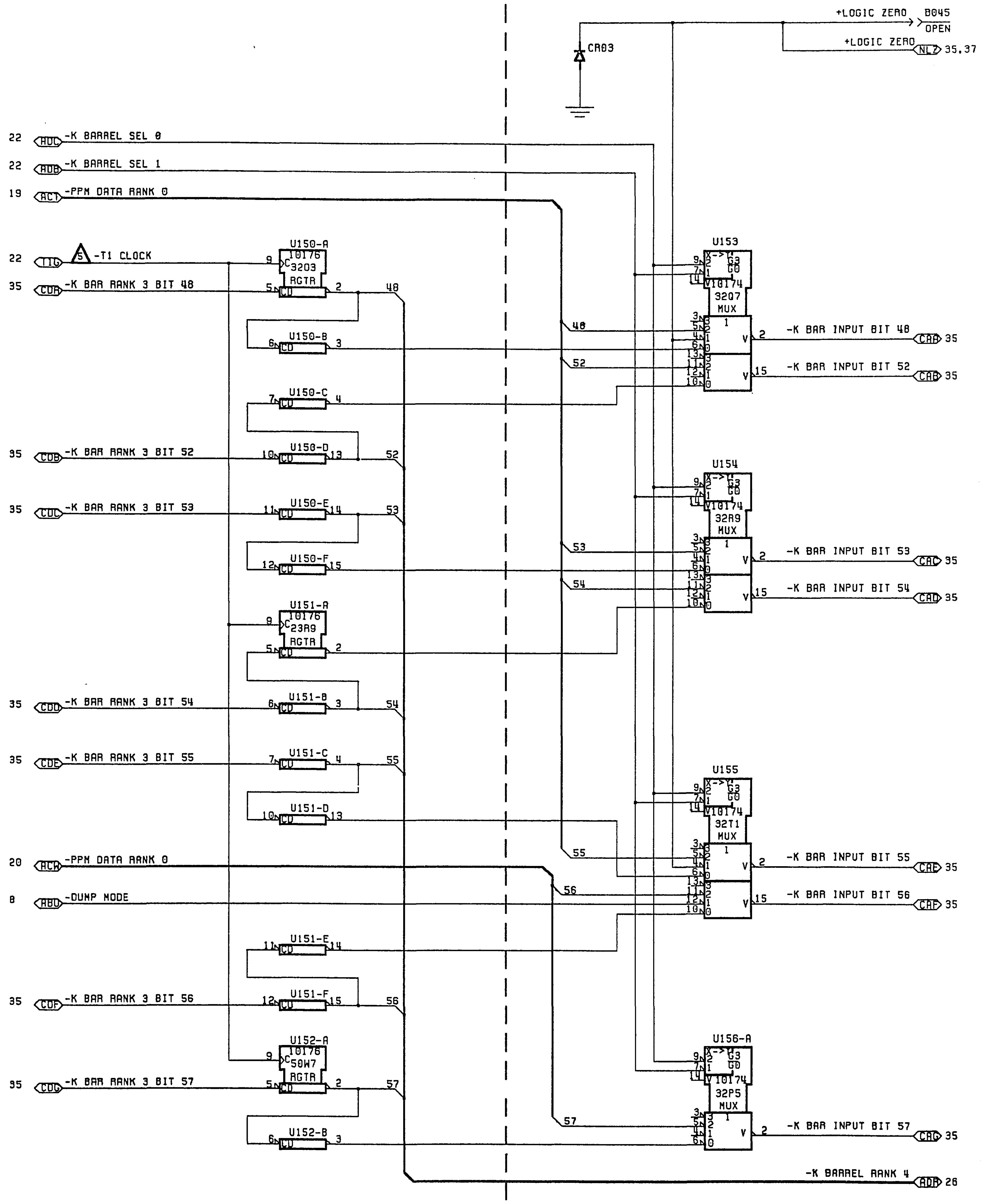
△3 LINES NO LONGER THAN 6 INCHES

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD JW MAC MUX BITS 56-63 TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
			SHEET NO. 26	60462210	PAGE JW-26

K BARREL RANK 4 & RANK 0 RGTR

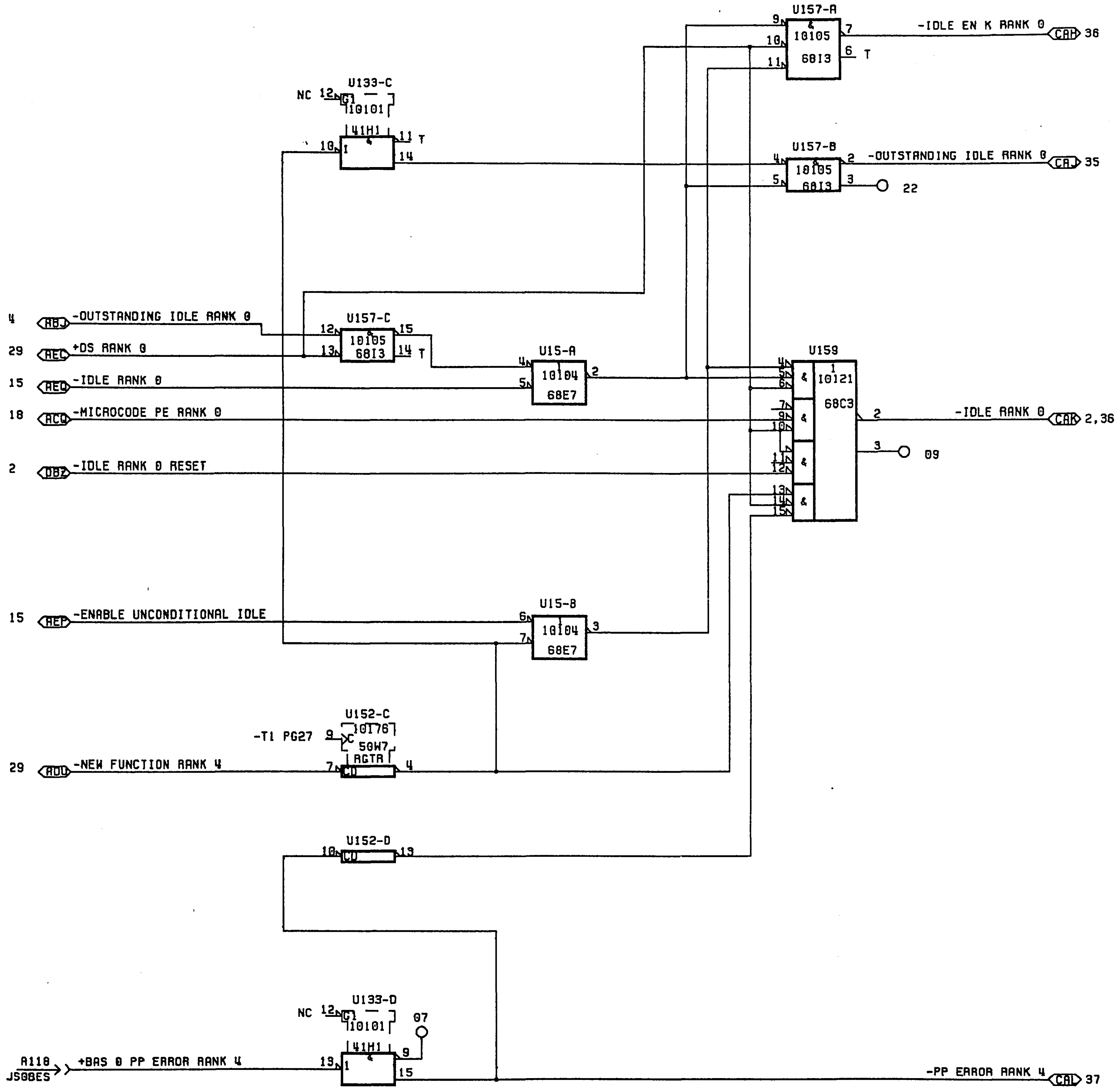
K BARREL INPUT MUX



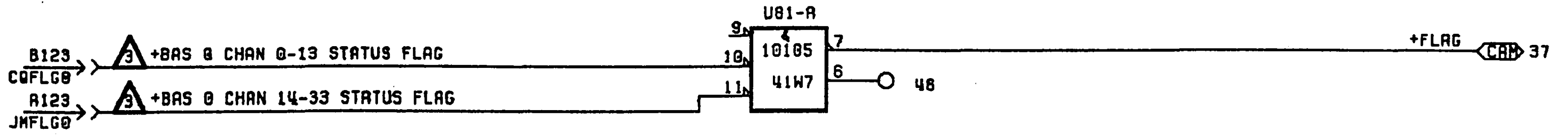
5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD K BARREL RANK 4, RANK 0 K BARREL INPUT MUX TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		N	SHEET NO. 27	60462210	PAGE JW-27

OUTSTANDING IDLE RANK 0



CHAN FLAG

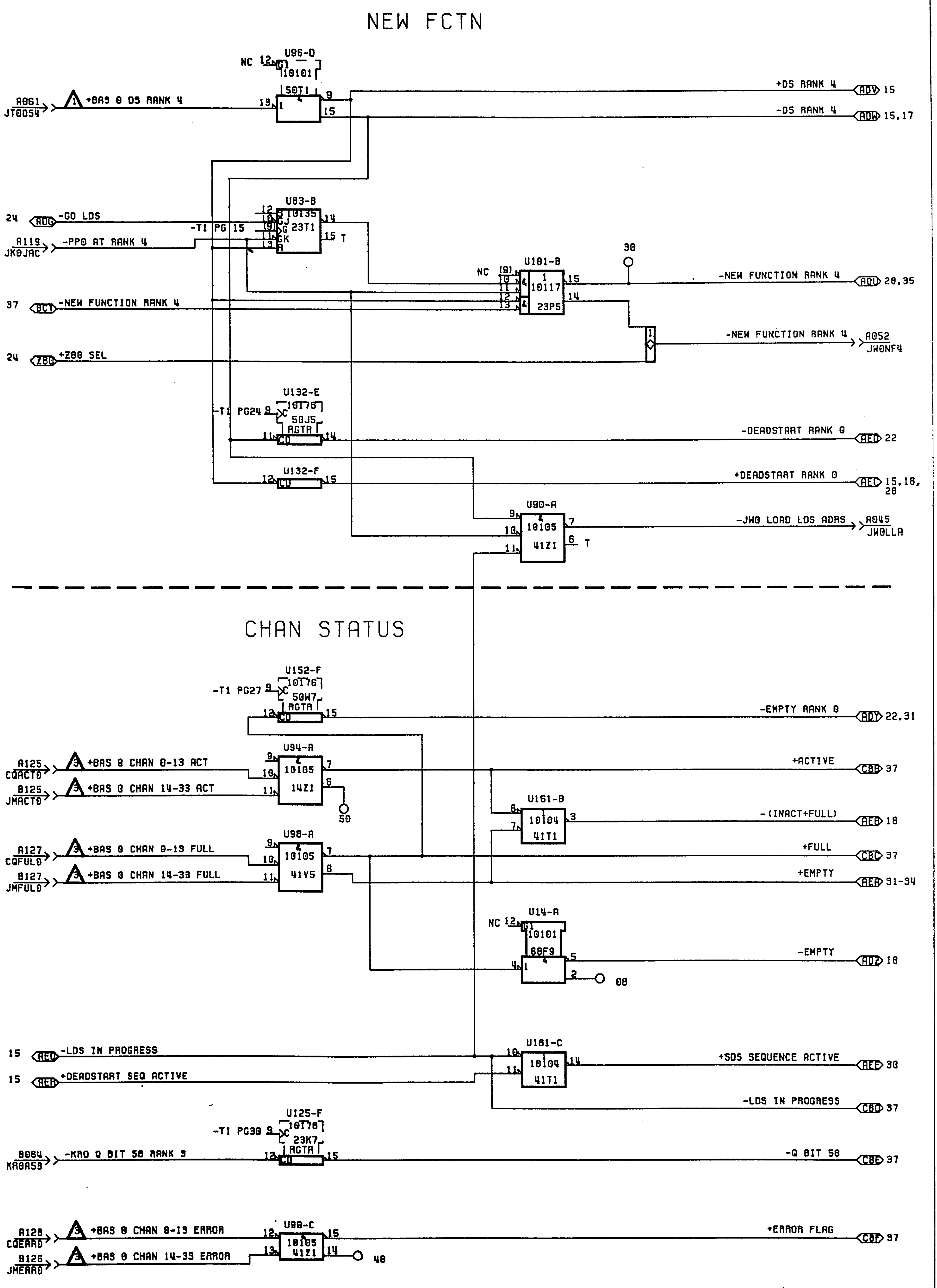


3 LINES NO LONGER THAN 6 INCHES

CONTROL DATA

MICROCODE BOARD
OUTSTANDING IDLE RANK 0
CHANNEL FLAG
TYPE 1JWH

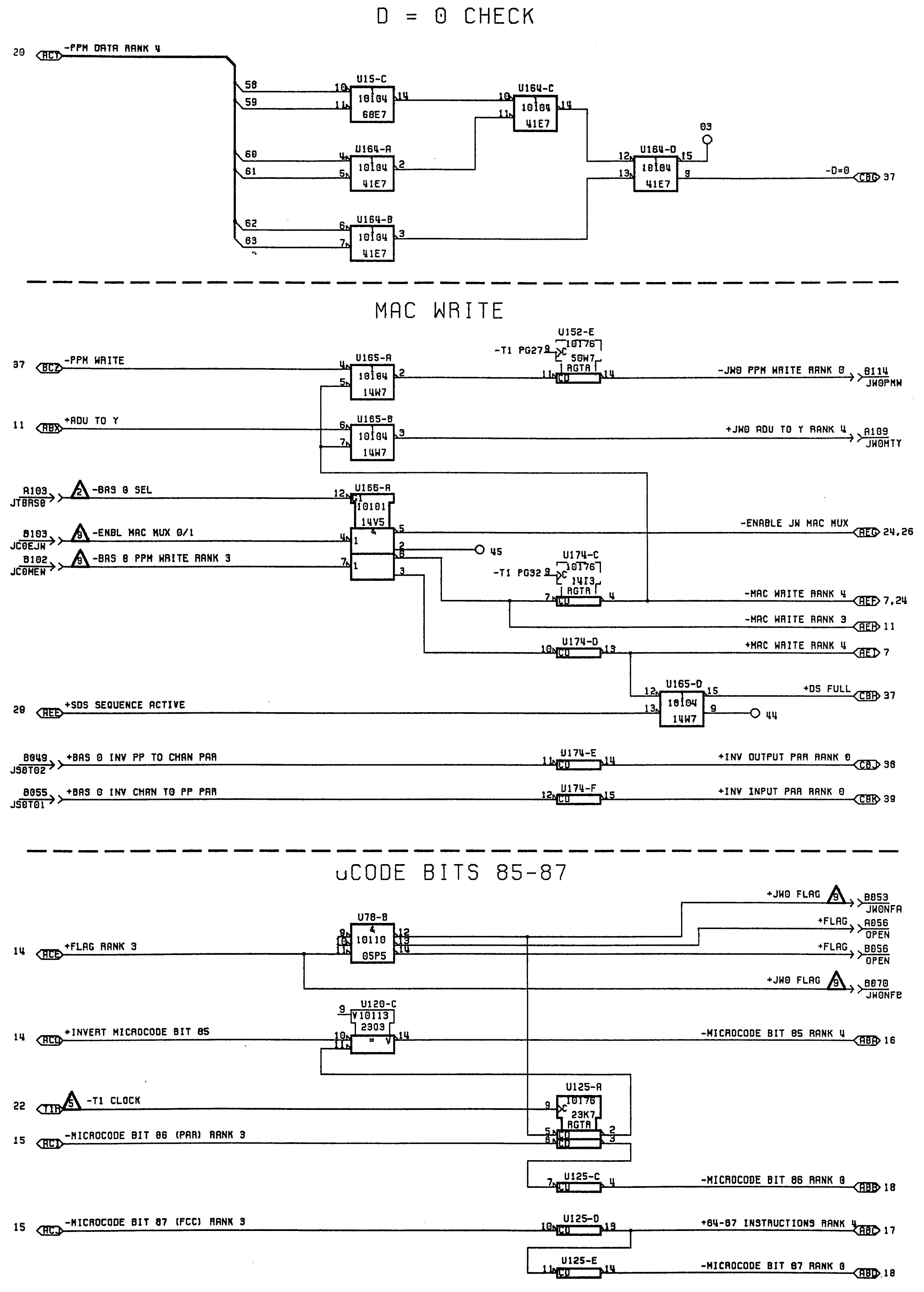
B	DWG NO. 22105621	DATE 04/11/86	REV A
SHEET NO. 28	60462210	PAGE JW-28	


NEW FCTN
NC 12 G U96-D 10101
A061 JT0DS4 1 +BAS 0 DS RANK 4
13 1 50T1 9 15
+DS RANK 4 ADV 15
-DS RANK 4 ADW 15,17
U83-B 10135 23T1
24 ADG -GO LDS
-T1 PG 15
A119 JK0JAC -PP0 AT RANK 4
14 15 T
30
NC (9) U101-B 1 10117 23P5 15 14
-NEW FUNCTION RANK 4 ADU 28,35
37 BCY -NEW FUNCTION RANK 4
-NEW FUNCTION RANK 4 A052 JWONF4
24 Z80 +Z80 SEL
U132-E 10176 50J5 AGTA
-T1 PG24 9 C CD 11 14
-DEADSTART RANK 0 AED 22
U132-F 12 CD 15
+DEADSTART RANK 0 AEC 15,18, 28
U90-A 9 10 11 10105 41Z1 7 6 T
-JW0 LOAD LDS ADRS A045 JW0LLA
CHAN STATUS
U152-F 10176 50W7 AGTA
-T1 PG27 9 C 12 CD 15
-EMPTY RANK 0 ADY 22,31
U94-A 10105 14Z1 7 6 50
A125 CQACT0 3 +BAS 0 CHAN 0-13 ACT
B125 JMACT0 3 +BAS 0 CHAN 14-33 ACT
+ACTIVE CBB 37
U161-B 10104 41T1 6 7 3
-(INACT+FULL) AEB 18
U98-A 10105 41V5 7 6
A127 CQFUL0 3 +BAS 0 CHAN 0-13 FULL
B127 JMFUL0 3 +BAS 0 CHAN 14-33 FULL
+FULL CBC 37
+EMPTY AEA 31-34
U14-A NC 12 G 10101 60F9 4 1 5 2 08
-EMPTY ADZ 18
U101-C 10 11 10104 41T1 14
15 AEQ -LDS IN PROGRESS
15 AER +DEADSTART SEQ ACTIVE
+SDS SEQUENCE ACTIVE AEF 30
-LDS IN PROGRESS CBD 37
U125-F 10176 23K7 AGTA
-T1 PG30 9 C 12 CD 15
B064 KR0A58 -KR0 Q BIT 58 RANK 3
-Q BIT 58 CBE 37
U98-C 12 13 10105 41Z1 15 14 48
A128 CQERR0 3 +BAS 0 CHAN 0-13 ERROR
B128 JMERR0 3 +BAS 0 CHAN 14-33 ERROR
+ERROR FLAG CBF 37

1 NOT TERMINATED

3 LINES NO LONGER THAN 6 INCHES

CONTROL DATA	MICROCODE BOARD NEW FUNCTION CHANNEL STATUS TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 29	60462210	PAGE JW-28	



2 NOT TERMINATED AND LINES NO LONGER THAN 12 INCHES

5 TOTAL LINE LENGTH 12 INCHES OR LESS

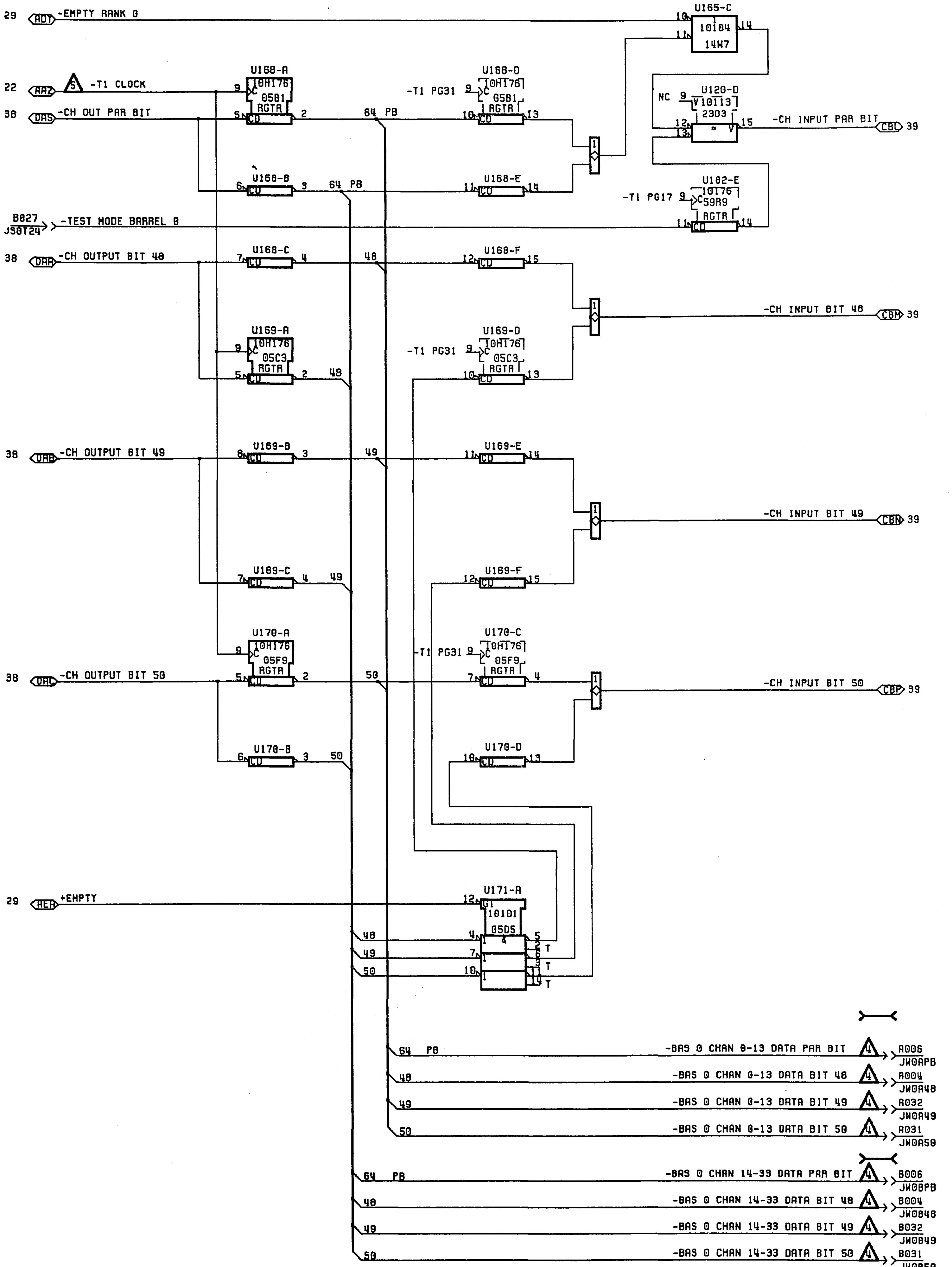
9 LINES NO LONGER THAN 12 INCHES

CONTROL DATA

MICROCODE BOARD
D = 0, MAC WRITE
MICROCODE BITS 85-87
TYPE 1JWH

	DWG NO.	DATE	REV
B	22105621	04/11/86	A
SHEET NO. 30	60462210	PAGE JW-30	

CHAN DATA RGTR BITS 48-50 & PAR

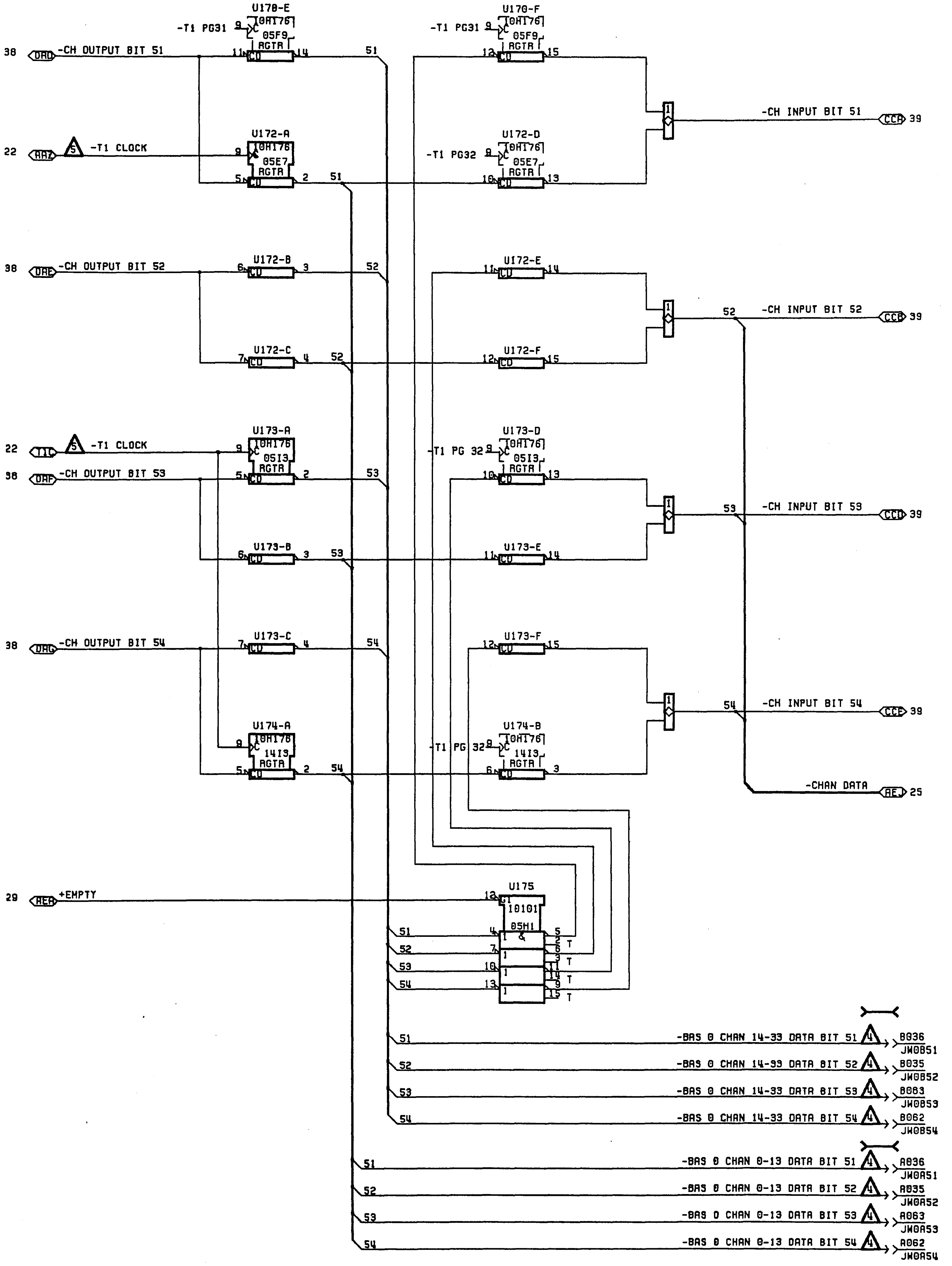


4 NO LONGER THAN 12 INCHES AND TERMINATE AT FARTHEST END FROM PINS

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD CHANNEL DATA BITS 48-50 & PARITY TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 31	60462210	PAGE JW-31	

CHAN DATA RGTR BITS 51-54

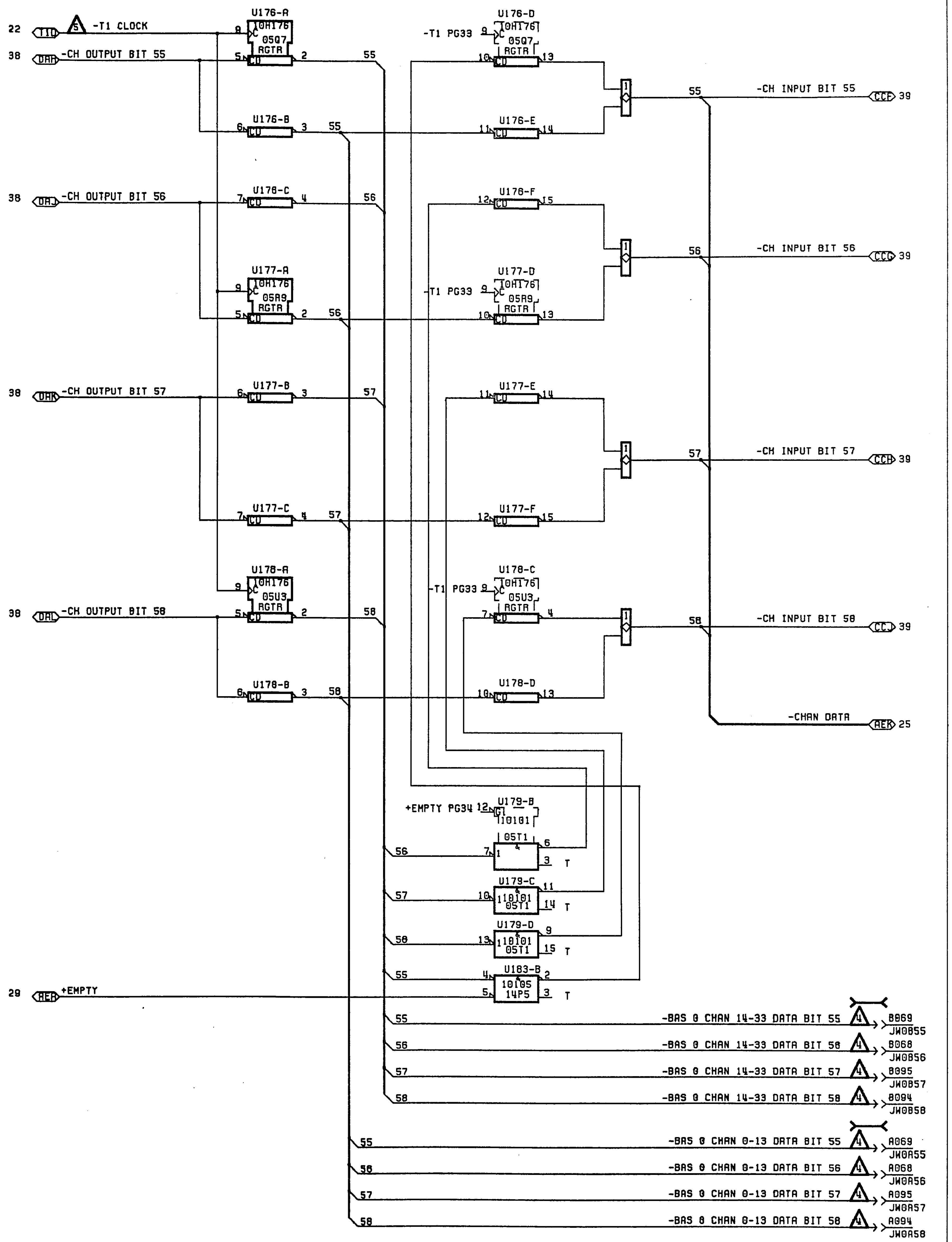


4 NO LONGER THAN 12 INCHES AND TERMINATE AT FARTHEST END FROM PINS

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD CHANNEL DATA BIT 51-54 TYPE 1JMH	B	DWG NO. 22105621	DATE 04/11/86	REV A
			SHEET NO. 32	60462210	PAGE JM-92

CHAN DATA RGTR BITS 55-58

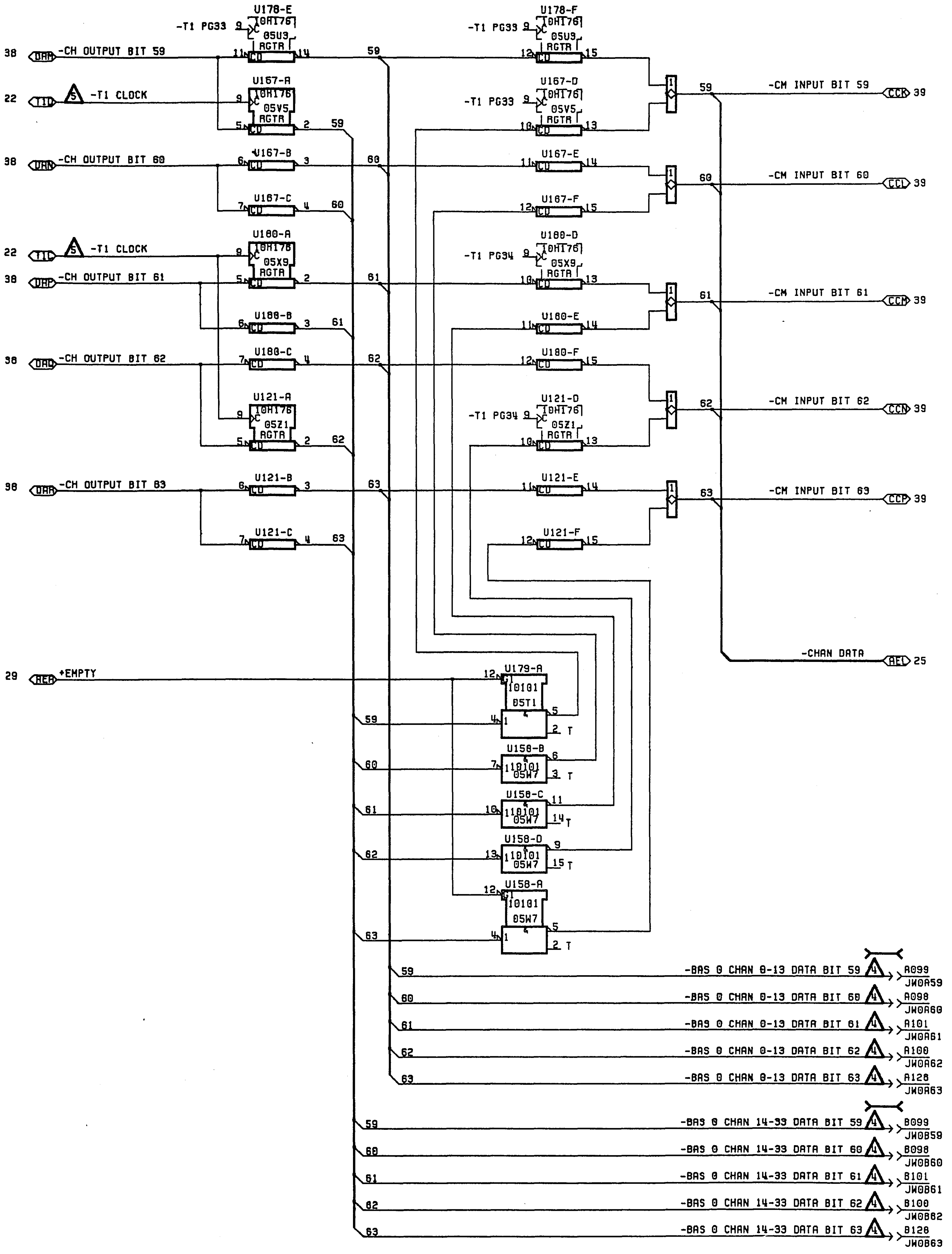


△4 NO LONGER THAN 12 INCHES AND TERMINATE AT FARTHEST END FROM PINS

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD CHANNEL DATA BITS 55-58 TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 33	60462210	PAGE JW-33	

CHAN DATA RGTR BITS 59-63

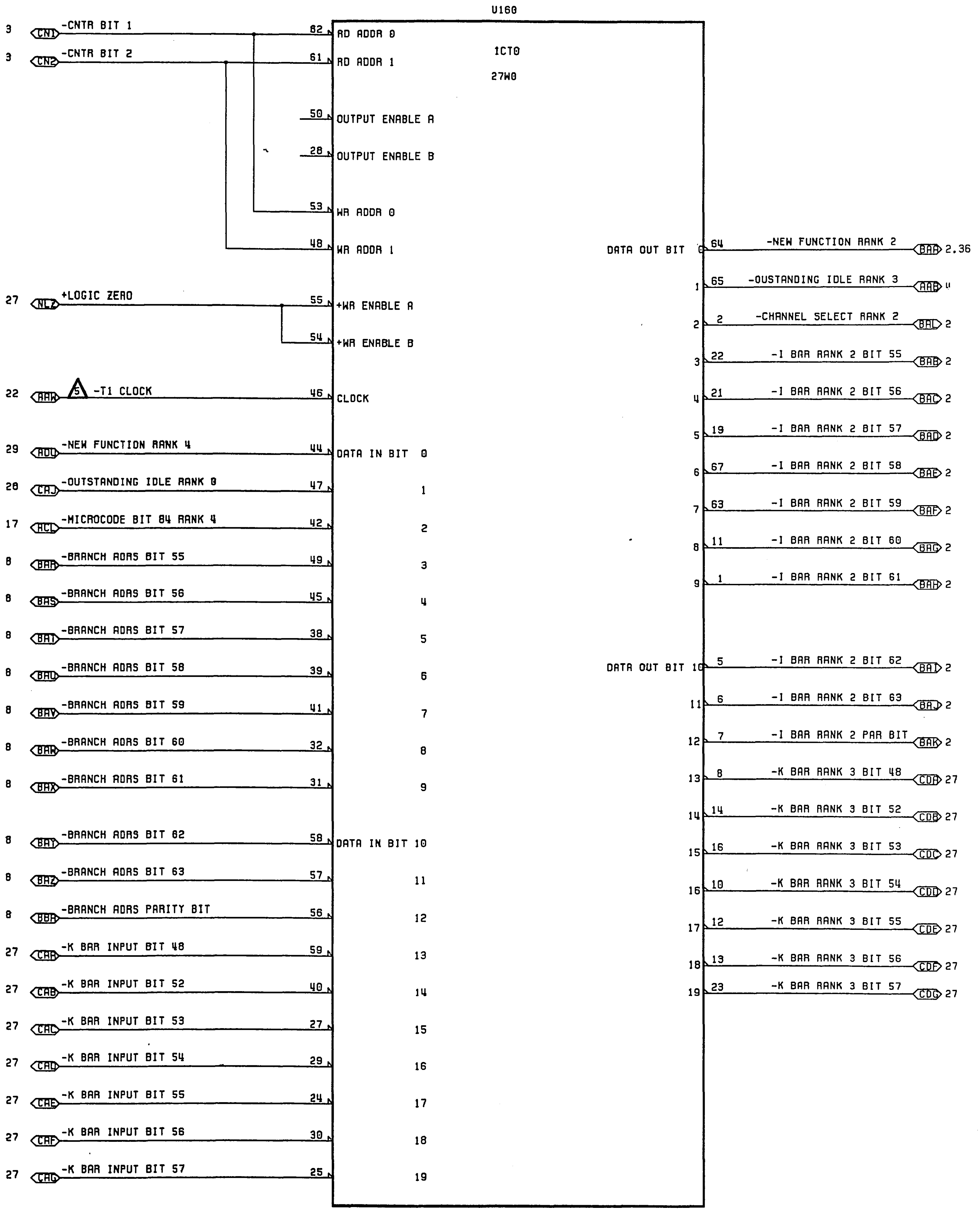


△4 NO LONGER THAN 12 INCHES AND TERMINATE AT FARTHEST END FROM PINS

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD CHANNEL DATA BITS 59-63 TYPE 1JWH	8	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 34	60462210	PAGE JW-34	

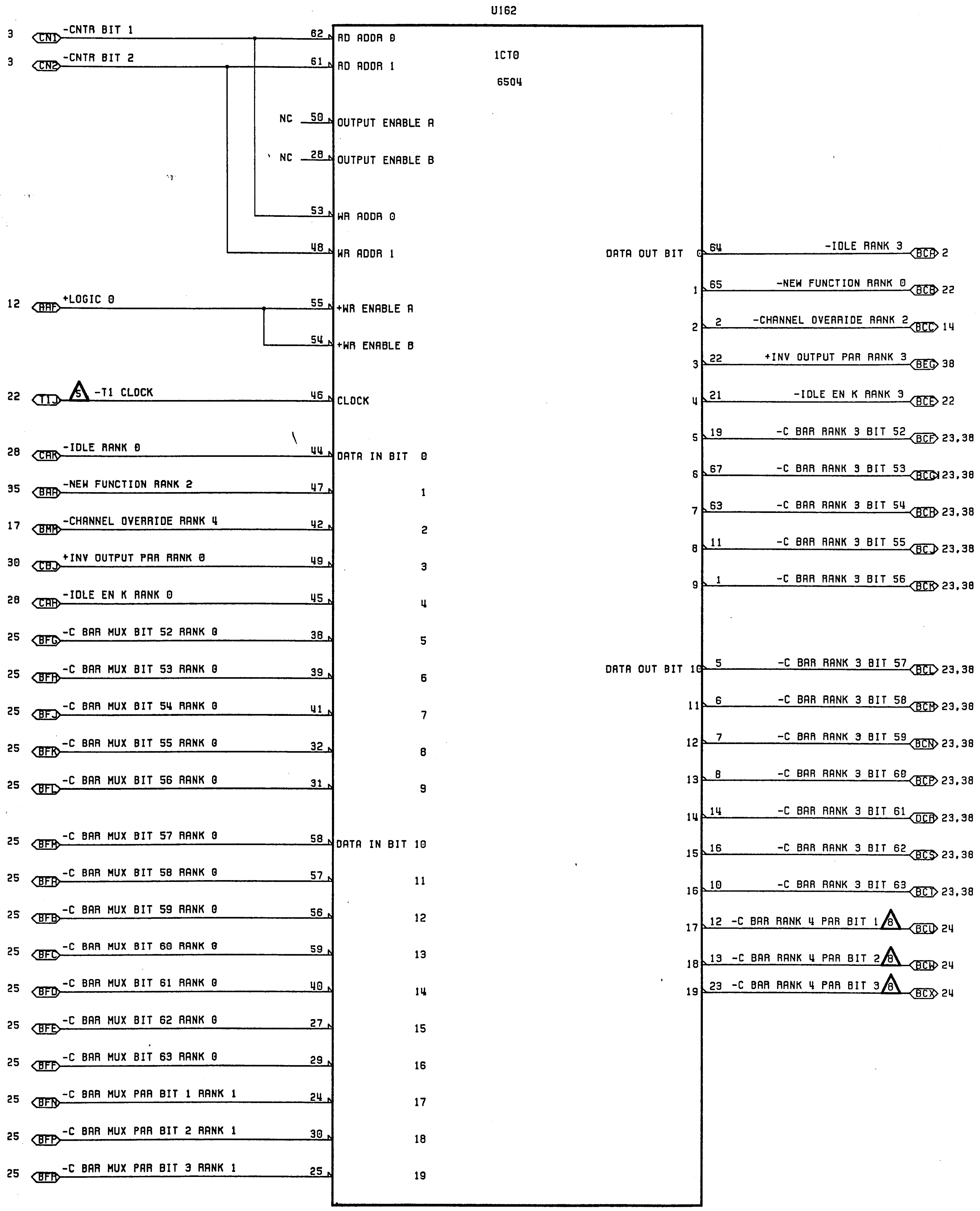
I BARREL RANKS 0-2
K BARREL RANKS 1-3


U160
1CT0
27W0
3 CN1 -CNTR BIT 1 62 RD ADDR 0
3 CN2 -CNTR BIT 2 61 RD ADDR 1
50 OUTPUT ENABLE A
28 OUTPUT ENABLE B
53 WR ADDR 0
48 WR ADDR 1
27 NLZ +LOGIC ZERO 55 +WR ENABLE A
54 +WR ENABLE B
22 AAW 5 -T1 CLOCK 46 CLOCK
29 ADQ -NEW FUNCTION RANK 4 44 DATA IN BIT 0
28 CAJ -OUTSTANDING IDLE RANK 0 47 1
17 ACL -MICROCODE BIT 84 RANK 4 42 2
8 BAR -BRANCH ADRS BIT 55 49 3
8 BAS -BRANCH ADRS BIT 56 45 4
8 BAT -BRANCH ADRS BIT 57 38 5
8 BAU -BRANCH ADRS BIT 58 39 6
8 BAV -BRANCH ADRS BIT 59 41 7
8 BAW -BRANCH ADRS BIT 60 32 8
8 BAX -BRANCH ADRS BIT 61 31 9
8 BAY -BRANCH ADRS BIT 62 58 DATA IN BIT 10
8 BAZ -BRANCH ADRS BIT 63 57 11
8 BBA -BRANCH ADRS PARITY BIT 56 12
27 CAA -K BAR INPUT BIT 48 59 13
27 CAB -K BAR INPUT BIT 52 40 14
27 CAC -K BAR INPUT BIT 53 27 15
27 CAD -K BAR INPUT BIT 54 29 16
27 CAE -K BAR INPUT BIT 55 24 17
27 CAF -K BAR INPUT BIT 56 30 18
27 CAG -K BAR INPUT BIT 57 25 19
DATA OUT BIT 0 64 -NEW FUNCTION RANK 2 BAA 2,36
1 65 -OUSTANDING IDLE RANK 3 AAB 4
2 2 -CHANNEL SELECT RANK 2 BAL 2
3 22 -I BAR RANK 2 BIT 55 BAB 2
4 21 -I BAR RANK 2 BIT 56 BAC 2
5 19 -I BAR RANK 2 BIT 57 BAD 2
6 67 -I BAR RANK 2 BIT 58 BAE 2
7 63 -I BAR RANK 2 BIT 59 BAF 2
8 11 -I BAR RANK 2 BIT 60 BAG 2
9 1 -I BAR RANK 2 BIT 61 BAH 2
DATA OUT BIT 10 5 -I BAR RANK 2 BIT 62 BAI 2
11 6 -I BAR RANK 2 BIT 63 BAJ 2
12 7 -I BAR RANK 2 PAR BIT BAK 2
13 8 -K BAR RANK 3 BIT 48 CDA 27
14 14 -K BAR RANK 3 BIT 52 CDB 27
15 16 -K BAR RANK 3 BIT 53 CDC 27
16 10 -K BAR RANK 3 BIT 54 CDD 27
17 12 -K BAR RANK 3 BIT 55 CDE 27
18 13 -K BAR RANK 3 BIT 56 CDF 27
19 23 -K BAR RANK 3 BIT 57 CDG 27

5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD I BARREL RANK 0-2 K BARREL RANK 1-3 TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		N	SHEET NO. 35	60462210	PAGE JW-35

C BARREL RANKS 1-3

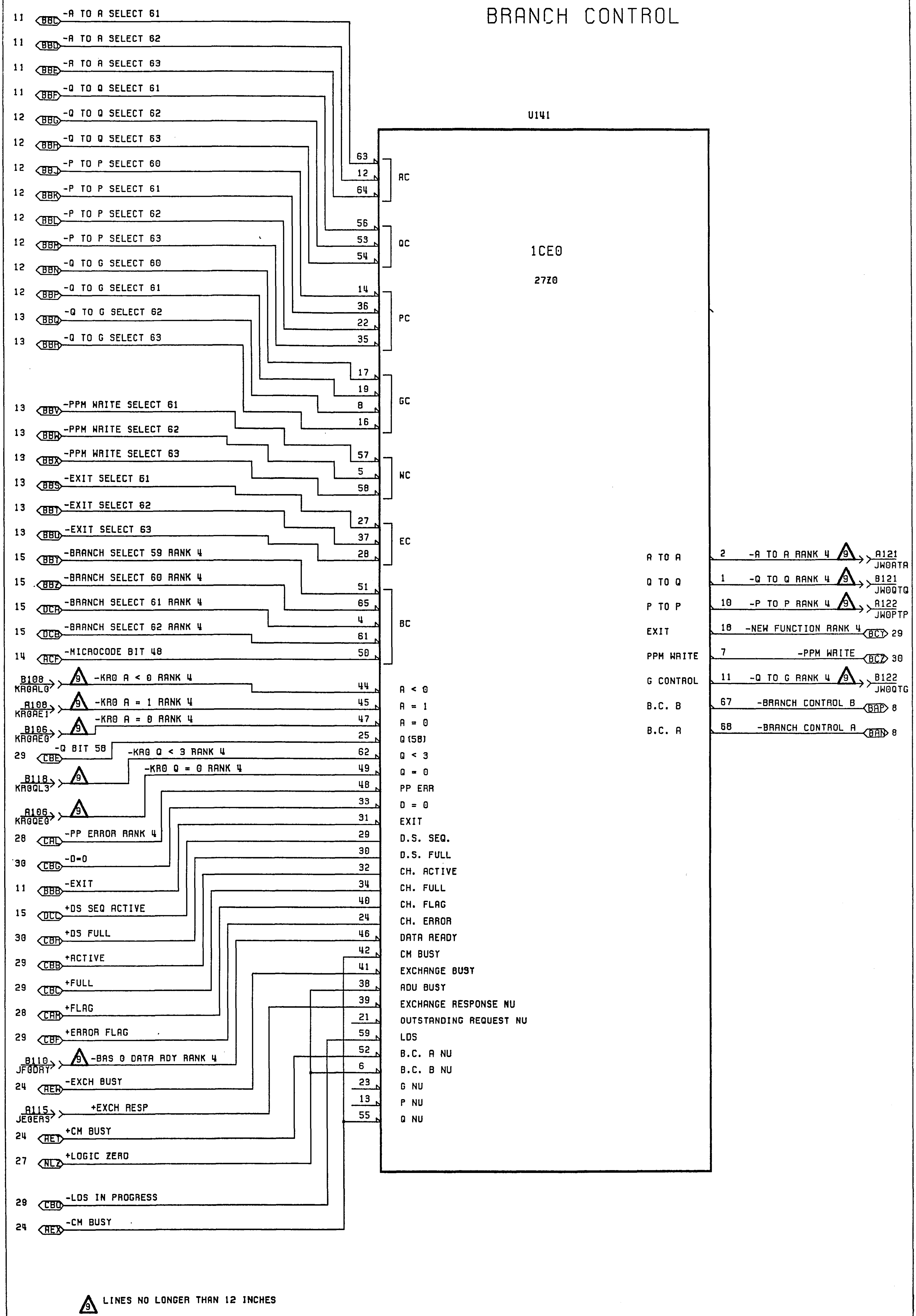

U162
1CT0
6504
3 CN1 -CNTR BIT 1 62 RD ADDR 0
3 CN2 -CNTR BIT 2 61 RD ADDR 1
NC 50 OUTPUT ENABLE A
NC 28 OUTPUT ENABLE B
53 WR ADDR 0
48 WR ADDR 1
12 AAF +LOGIC 0 55 +WR ENABLE A
54 +WR ENABLE B
22 T1J 5 -T1 CLOCK 46 CLOCK
28 CAK -IDLE RANK 0 44 DATA IN BIT 0
35 BAA -NEW FUNCTION RANK 2 47 1
17 BMM -CHANNEL OVERRIDE RANK 4 42 2
30 CBJ +INV OUTPUT PAR RANK 0 49 3
28 CAA -IDLE EN K RANK 0 45 4
25 BFG -C BAR MUX BIT 52 RANK 0 38 5
25 BFA -C BAR MUX BIT 53 RANK 0 39 6
25 BFJ -C BAR MUX BIT 54 RANK 0 41 7
25 BFK -C BAR MUX BIT 55 RANK 0 32 8
25 BFL -C BAR MUX BIT 56 RANK 0 31 9
25 BFM -C BAR MUX BIT 57 RANK 0 58 DATA IN BIT 10
25 BFA -C BAR MUX BIT 58 RANK 0 57 11
25 BFB -C BAR MUX BIT 59 RANK 0 56 12
25 BFC -C BAR MUX BIT 60 RANK 0 59 13
25 BFD -C BAR MUX BIT 61 RANK 0 40 14
25 BFE -C BAR MUX BIT 62 RANK 0 27 15
25 BFF -C BAR MUX BIT 63 RANK 0 29 16
25 BFN -C BAR MUX PAR BIT 1 RANK 1 24 17
25 BFP -C BAR MUX PAR BIT 2 RANK 1 30 18
25 BFA -C BAR MUX PAR BIT 3 RANK 1 25 19
DATA OUT BIT 0 64 -IDLE RANK 3 BCA 2
1 65 -NEW FUNCTION RANK 0 BCB 22
2 2 -CHANNEL OVERRIDE RANK 2 BCC 14
3 22 +INV OUTPUT PAR RANK 3 BEG 38
4 21 -IDLE EN K RANK 3 BCE 22
5 19 -C BAR RANK 3 BIT 52 BCF 23,38
6 67 -C BAR RANK 3 BIT 53 BCG 23,38
7 63 -C BAR RANK 3 BIT 54 BCH 23,38
8 11 -C BAR RANK 3 BIT 55 BCJ 23,38
9 1 -C BAR RANK 3 BIT 56 BCK 23,38
DATA OUT BIT 10 5 -C BAR RANK 3 BIT 57 BCL 23,38
11 6 -C BAR RANK 3 BIT 58 BCM 23,38
12 7 -C BAR RANK 3 BIT 59 BCN 23,38
13 8 -C BAR RANK 3 BIT 60 BCP 23,38
14 14 -C BAR RANK 3 BIT 61 DCA 23,38
15 16 -C BAR RANK 3 BIT 62 BCS 23,38
16 10 -C BAR RANK 3 BIT 63 BCT 23,38
17 12 -C BAR RANK 4 PAR BIT 1 8 BCU 24
18 13 -C BAR RANK 4 PAR BIT 2 8 BCW 24
19 23 -C BAR RANK 4 PAR BIT 3 8 BCX 24

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

△8 LINES LONGER THAN 12 INCHES

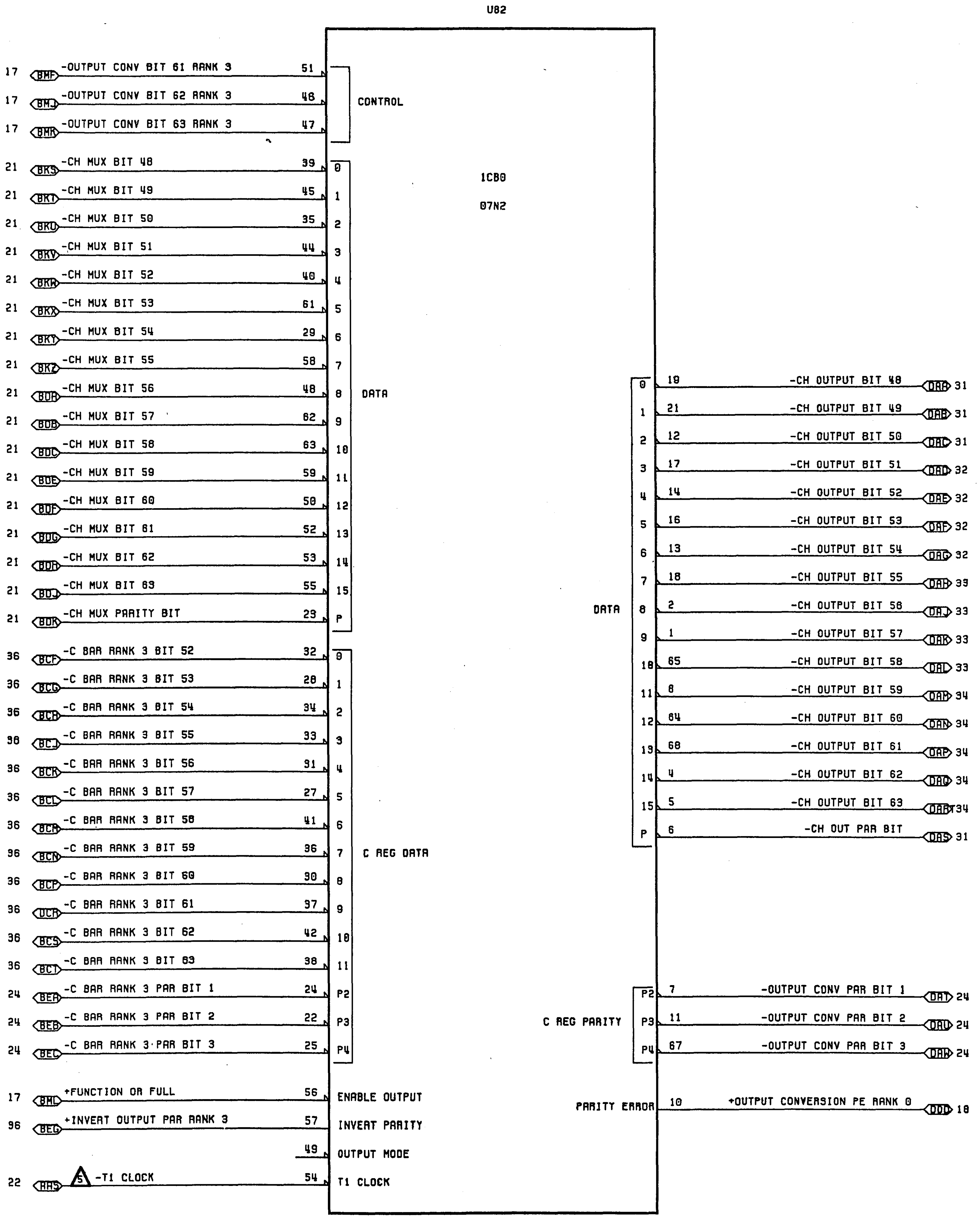
CONTROL DATA	MICROCODE BOARD C BARREL RANK 1-3 TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
	N	SHEET NO. 36	60462210	PAGE JW-36	

BRANCH CONTROL



CONTROL DATA	MICROCODE BOARD BRANCH CONTROL TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
		SHEET NO. 37	60462210	PAGE JW-37	

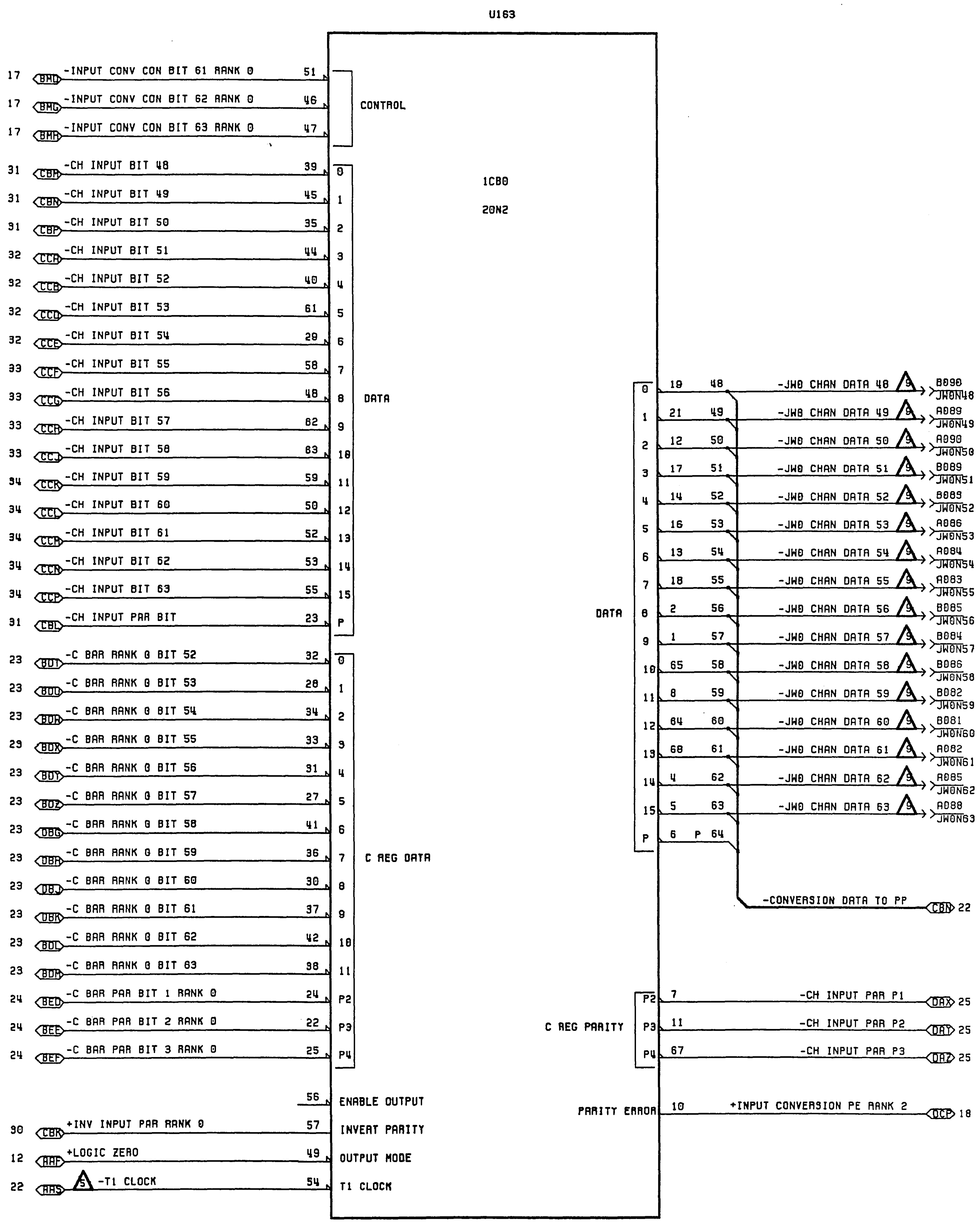
OUTPUT CONVERTER


U82
1CB0
07N2
CONTROL
DATA
C REG DATA
ENABLE OUTPUT
INVERT PARITY
OUTPUT MODE
T1 CLOCK
DATA
C REG PARITY
PARITY ERROR
17 BMF -OUTPUT CONV BIT 61 RANK 3 51
17 BMJ -OUTPUT CONV BIT 62 RANK 3 46
17 BMK -OUTPUT CONV BIT 63 RANK 3 47
21 BKS -CH MUX BIT 48 39 0
21 BKT -CH MUX BIT 49 45 1
21 BKU -CH MUX BIT 50 35 2
21 BKV -CH MUX BIT 51 44 3
21 BKW -CH MUX BIT 52 40 4
21 BKX -CH MUX BIT 53 61 5
21 BKY -CH MUX BIT 54 29 6
21 BKZ -CH MUX BIT 55 58 7
21 BDA -CH MUX BIT 56 48 8
21 BDB -CH MUX BIT 57 62 9
21 BDC -CH MUX BIT 58 63 10
21 BDE -CH MUX BIT 59 59 11
21 BDF -CH MUX BIT 60 50 12
21 BDG -CH MUX BIT 61 52 13
21 BDH -CH MUX BIT 62 53 14
21 BDJ -CH MUX BIT 63 55 15
21 BDK -CH MUX PARITY BIT 23 P
36 BCF -C BAR RANK 3 BIT 52 32 0
36 BCG -C BAR RANK 3 BIT 53 28 1
36 BCH -C BAR RANK 3 BIT 54 34 2
36 BCJ -C BAR RANK 3 BIT 55 33 3
36 BCK -C BAR RANK 3 BIT 56 31 4
36 BCL -C BAR RANK 3 BIT 57 27 5
36 BCM -C BAR RANK 3 BIT 58 41 6
36 BCN -C BAR RANK 3 BIT 59 36 7
36 BCP -C BAR RANK 3 BIT 60 30 8
36 DCR -C BAR RANK 3 BIT 61 37 9
36 BCS -C BAR RANK 3 BIT 62 42 10
36 BCT -C BAR RANK 3 BIT 63 38 11
24 BEA -C BAR RANK 3 PAR BIT 1 24 P2
24 BEB -C BAR RANK 3 PAR BIT 2 22 P3
24 BEC -C BAR RANK 3·PAR BIT 3 25 P4
17 BML +FUNCTION OR FULL 56
36 BEG +INVERT OUTPUT PAR RANK 3 57
49
22 AAS 5 -T1 CLOCK 54
0 19 -CH OUTPUT BIT 48 DAA 31
1 21 -CH OUTPUT BIT 49 DAB 31
2 12 -CH OUTPUT BIT 50 DAC 31
3 17 -CH OUTPUT BIT 51 DAD 32
4 14 -CH OUTPUT BIT 52 DAE 32
5 16 -CH OUTPUT BIT 53 DAF 32
6 13 -CH OUTPUT BIT 54 DAG 32
7 18 -CH OUTPUT BIT 55 DAH 33
8 2 -CH OUTPUT BIT 56 DAJ 33
9 1 -CH OUTPUT BIT 57 DAK 33
10 65 -CH OUTPUT BIT 58 DAL 33
11 8 -CH OUTPUT BIT 59 DAM 34
12 64 -CH OUTPUT BIT 60 DAN 34
13 68 -CH OUTPUT BIT 61 DAP 34
14 4 -CH OUTPUT BIT 62 DAQ 34
15 5 -CH OUTPUT BIT 63 DAR 34
P 6 -CH OUT PAR BIT DAS 31
P2 7 -OUTPUT CONV PAR BIT 1 DAT 24
P3 11 -OUTPUT CONV PAR BIT 2 DAU 24
P4 67 -OUTPUT CONV PAR BIT 3 DAW 24
10 +OUTPUT CONVERSION PE RANK 0 DDD 18

△5 TOTAL LINE LENGTH 12 INCHES OR LESS

CONTROL DATA	MICROCODE BOARD OUTPUT CONVERSION CHIP TYPE 1JHH	B	DWG NO. 22105621	DATE 04/11/86	REV A
	N	SHEET NO. 38	60462210	PAGE JW-38	

INPUT CONVERTER


U163
1CB0
20N2
CONTROL
DATA
C REG DATA
17 BMD -INPUT CONV CON BIT 61 RANK 0 51
17 BMG -INPUT CONV CON BIT 62 RANK 0 46
17 BMH -INPUT CONV CON BIT 63 RANK 0 47
31 CBM -CH INPUT BIT 48 39 0
31 CBN -CH INPUT BIT 49 45 1
31 CBP -CH INPUT BIT 50 35 2
32 CCA -CH INPUT BIT 51 44 3
32 CCB -CH INPUT BIT 52 40 4
32 CCD -CH INPUT BIT 53 61 5
32 CCE -CH INPUT BIT 54 29 6
33 CCF -CH INPUT BIT 55 58 7
33 CCG -CH INPUT BIT 56 48 8
33 CCH -CH INPUT BIT 57 62 9
33 CCJ -CH INPUT BIT 58 63 10
34 CCK -CH INPUT BIT 59 59 11
34 CCL -CH INPUT BIT 60 50 12
34 CCM -CH INPUT BIT 61 52 13
34 CCN -CH INPUT BIT 62 53 14
34 CCP -CH INPUT BIT 63 55 15
31 CBL -CH INPUT PAR BIT 23 P
23 BDT -C BAR RANK 0 BIT 52 32 0
23 BDU -C BAR RANK 0 BIT 53 28 1
23 BDW -C BAR RANK 0 BIT 54 34 2
23 BDX -C BAR RANK 0 BIT 55 33 3
23 BDY -C BAR RANK 0 BIT 56 31 4
23 BDZ -C BAR RANK 0 BIT 57 27 5
23 DBG -C BAR RANK 0 BIT 58 41 6
23 DBH -C BAR RANK 0 BIT 59 36 7
23 DBJ -C BAR RANK 0 BIT 60 30 8
23 DBK -C BAR RANK 0 BIT 61 37 9
23 BDL -C BAR RANK 0 BIT 62 42 10
23 BDM -C BAR RANK 0 BIT 63 38 11
24 BED -C BAR PAR BIT 1 RANK 0 24 P2
24 BEE -C BAR PAR BIT 2 RANK 0 22 P3
24 BEF -C BAR PAR BIT 3 RANK 0 25 P4
56 ENABLE OUTPUT
30 CBK +INV INPUT PAR RANK 0 57 INVERT PARITY
12 AAF +LOGIC ZERO 49 OUTPUT MODE
22 AAS 5 -T1 CLOCK 54 T1 CLOCK
DATA
0 19 48 -JW0 CHAN DATA 48 9 B090 JW0N48
1 21 49 -JW0 CHAN DATA 49 9 B089 JW0N49
2 12 50 -JW0 CHAN DATA 50 9 A090 JW0N50
3 17 51 -JW0 CHAN DATA 51 9 B089 JW0N51
4 14 52 -JW0 CHAN DATA 52 9 B083 JW0N52
5 16 53 -JW0 CHAN DATA 53 9 A086 JW0N53
6 13 54 -JW0 CHAN DATA 54 9 A084 JW0N54
7 18 55 -JW0 CHAN DATA 55 9 A083 JW0N55
8 2 56 -JW0 CHAN DATA 56 9 B085 JW0N56
9 1 57 -JW0 CHAN DATA 57 9 B084 JW0N57
10 65 58 -JW0 CHAN DATA 58 9 B086 JW0N58
11 8 59 -JW0 CHAN DATA 59 9 B082 JW0N59
12 64 60 -JW0 CHAN DATA 60 9 B081 JW0N60
13 68 61 -JW0 CHAN DATA 61 9 A082 JW0N61
14 4 62 -JW0 CHAN DATA 62 9 A085 JW0N62
15 5 63 -JW0 CHAN DATA 63 9 A088 JW0N63
P 6 P 64
-CONVERSION DATA TO PP CBN 22
C REG PARITY
P2 7 -CH INPUT PAR P1 DAX 25
P3 11 -CH INPUT PAR P2 DAY 25
P4 67 -CH INPUT PAR P3 DAZ 25
PARITY ERROR 10 +INPUT CONVERSION PE RANK 2 DCP 18

5 TOTAL LINE LENGTH 12 INCHES OR LESS

9 LINES NO LONGER THA 12 INCHES

CONTROL DATA	MICROCODE BOARD INPUT CONVERSION CHIP TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
			SHEET NO. 39	60462210	PAGE JW-39

TESTPOINTS

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	05	-I BAR RNK 4 BIT 62	27		
02	05	-I BAR RNK 4 BIT 61	28		
03	30	+ D = 0	29	18	-uCODE PE RANK 0
04	24	+IDLE	30	29	-NEW FCTN RANK 4
05	03	+CHIP COUNTER BIT 2	31		
06	03	+CHIP COUNTER BIT 1	32		
07	28	+PP ERROR RANK 4	33	18	-uCODE ADRS PE RK 4
08	29	+EMPTY	34	24	-CM BUSY
09	28	+IDLE RANK 0	35	15	+ENBL UNCOND IDLE
10	24	+EXCHANGE BUSY	36	08	-BRANCH CONTROL A
11	22	+K BAR SEL 0 RNK 0	37	05	-I BAR RNK 4 BIT 64
12	14	+ADU ENABLE	38	08	-BRANCH CONTROL B
13	07	+Y MUX SEL BIT 62	39	18	-JW0 CONV ERROR
14	22	-INPUT CHAN DATA PE	40	24	+GO LDS
15	05	-I BAR RNK 4 BIT 55	41	22	-DEADSTART RANK 0
16	05	-I BAR RNK 4 BIT 59	42	17	-MICROCODE BIT 78
17	05	-I BAR RNK 4 BIT 60	43	18	-JW0 ERROR RANK 1
18	05	-I BAR RNK 4 BIT 56	44	30	-DS FULL
19	05	-I BAR RNK 4 BIT 58	45	30	+ENABLE MAC MUX
20	05	-I BAR RNK 4 BIT 57	46	28	-FLAG
21	05	-I BAR RNK 4 BIT 63	47	17	+ENABLE WRITE FCTN
22	28	+OUTSTAND IDLE RK 0	48	29	-ERROR FLAG
23	22	+T1 CLOCK	49	10	-KEYPOINT
24			50	29	-ACTIVE
25	15	+DS SEQUENCE ACTIVE	51	17	+ENABLE READ FCTN
26					

CONNECTOR PINS

GND	A014,B014,A024,B024,A034,B034,A054,B054,A065, B065,A066,B066,A077,B077,A097,B097,A107, B107,A117,B117,A037,A038,B037,B038,B128
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	NOT USED
TERM	A023,B023,A025,B025,A026,B026,A028,A040,B040, A041,B041,A042,B042,A043,B043,B046
UNUSED	A045,A046,B088,A110,B115,B120

CONTROL DATA	MICROCODE BOARD TESTPOINTS & SIGNAL NAMES AND CONNECTOR PINS TYPE 1JWH	B	DWG NO. 22105621	DATE 04/11/86	REV A
	N	SHEET NO. 40	60462210	PAGE JW-40	

1KBH PP MEM BOARD

REVISION HISTORY B/M 41650331 & 41650332			
DATE	REV	DESCRIPTION OF CHANGE	INIT
11/01/85	A	CLASS A RELEASE OF LOGIC DIAGRAMS	
		WITH ECO #46886 INSTALLED.	DRF
07/07/86	B	ECO #47746 ADDS B/M NOS. TO SHT1.	JHJ

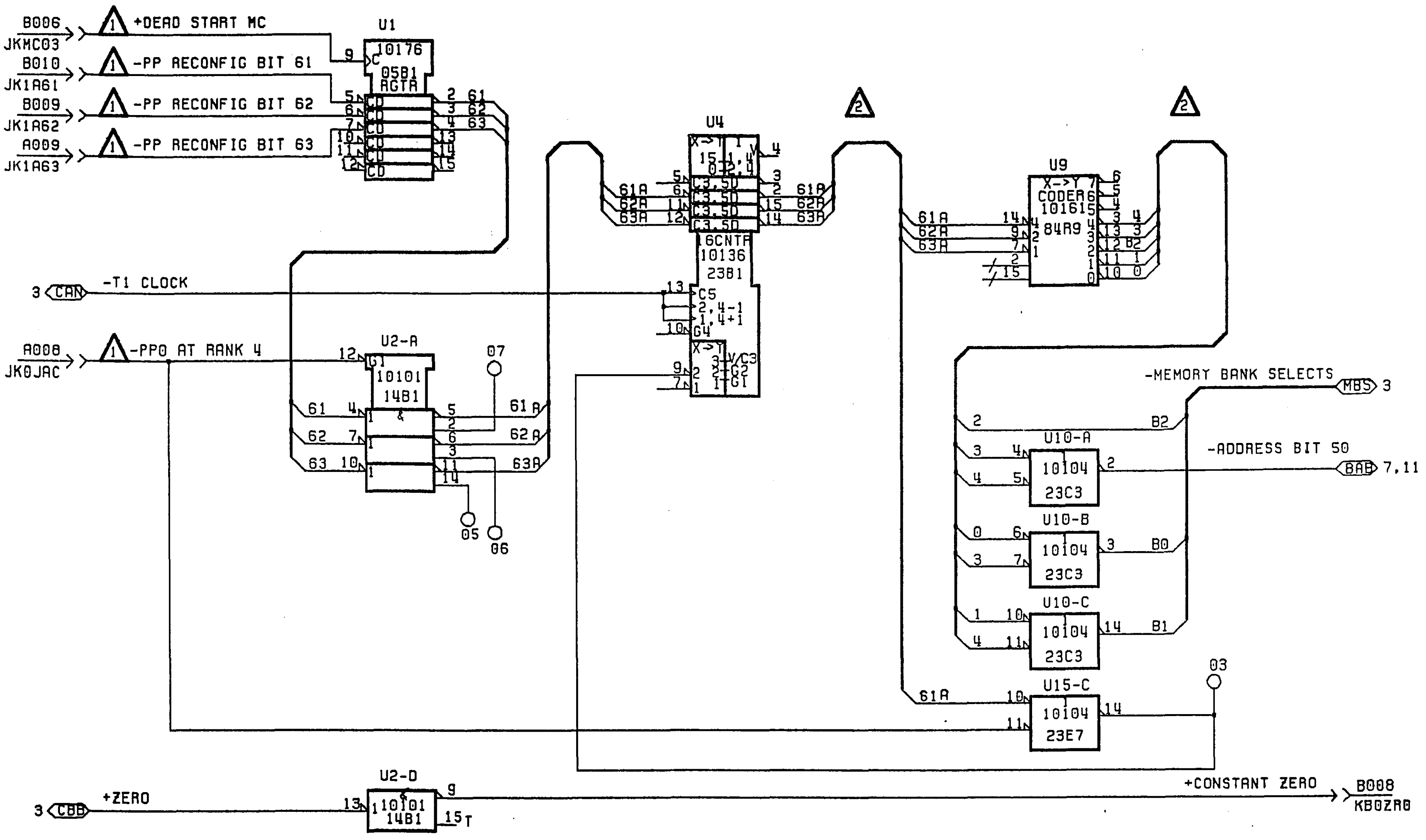
DWN	L H JOHNSON	11/01/85
CHKD	D R FORD	12/04/85
ENG	D R FORD	12/04/85
PUBS	R K BONDE	12/04/85
APP	D R FORD	12/04/85

NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

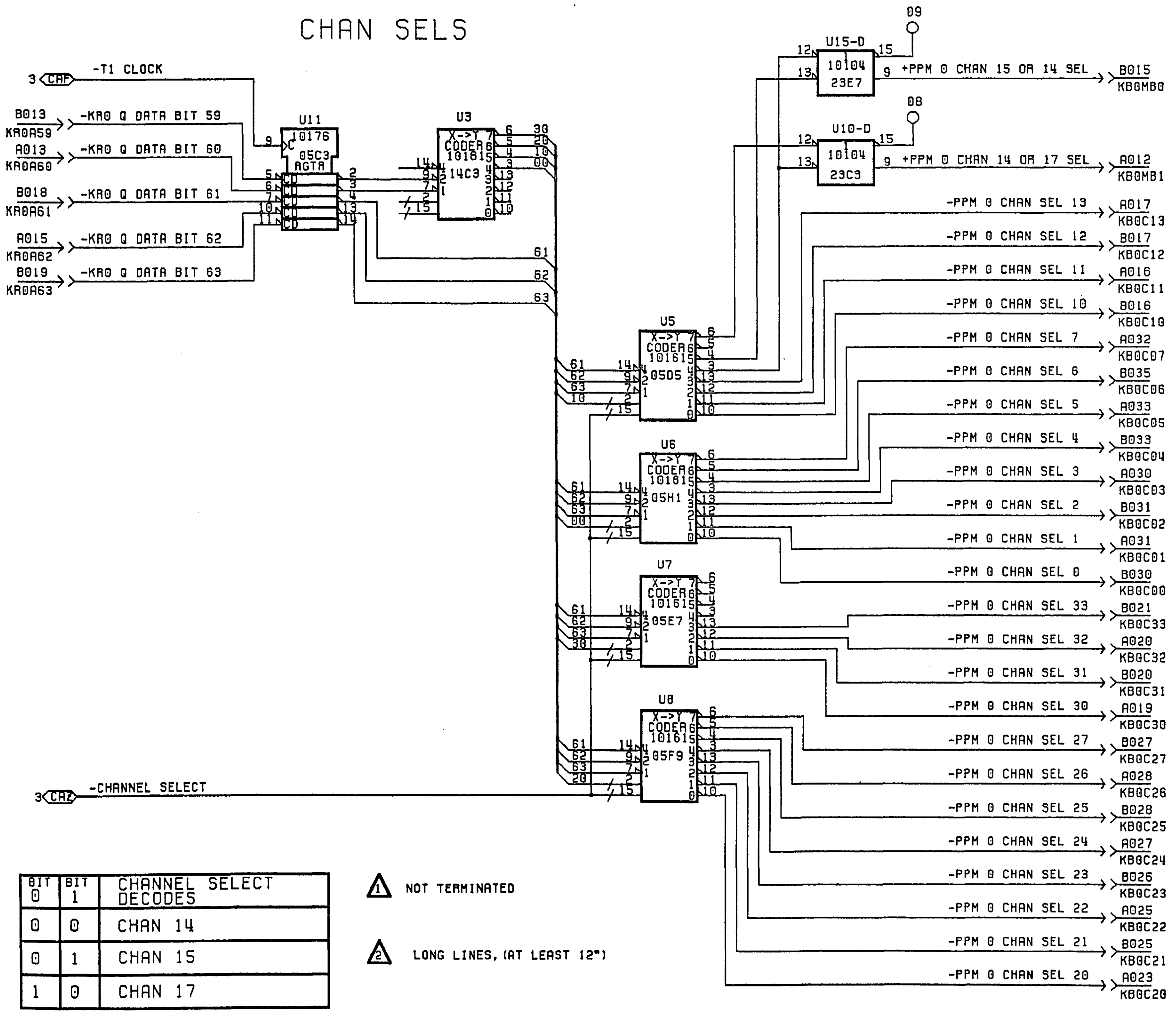
LOC: B28,B27,B26,B25,D26,C26

CONTROL DATA	REVISION HISTORY TYPE 1KBH	B	DWG NO. 53575535	DATE 07/07/86	REV B
	N	SHEET NO. 1	60462210	PAGE KB-01	

BANK CONTROL



CHAN SELS



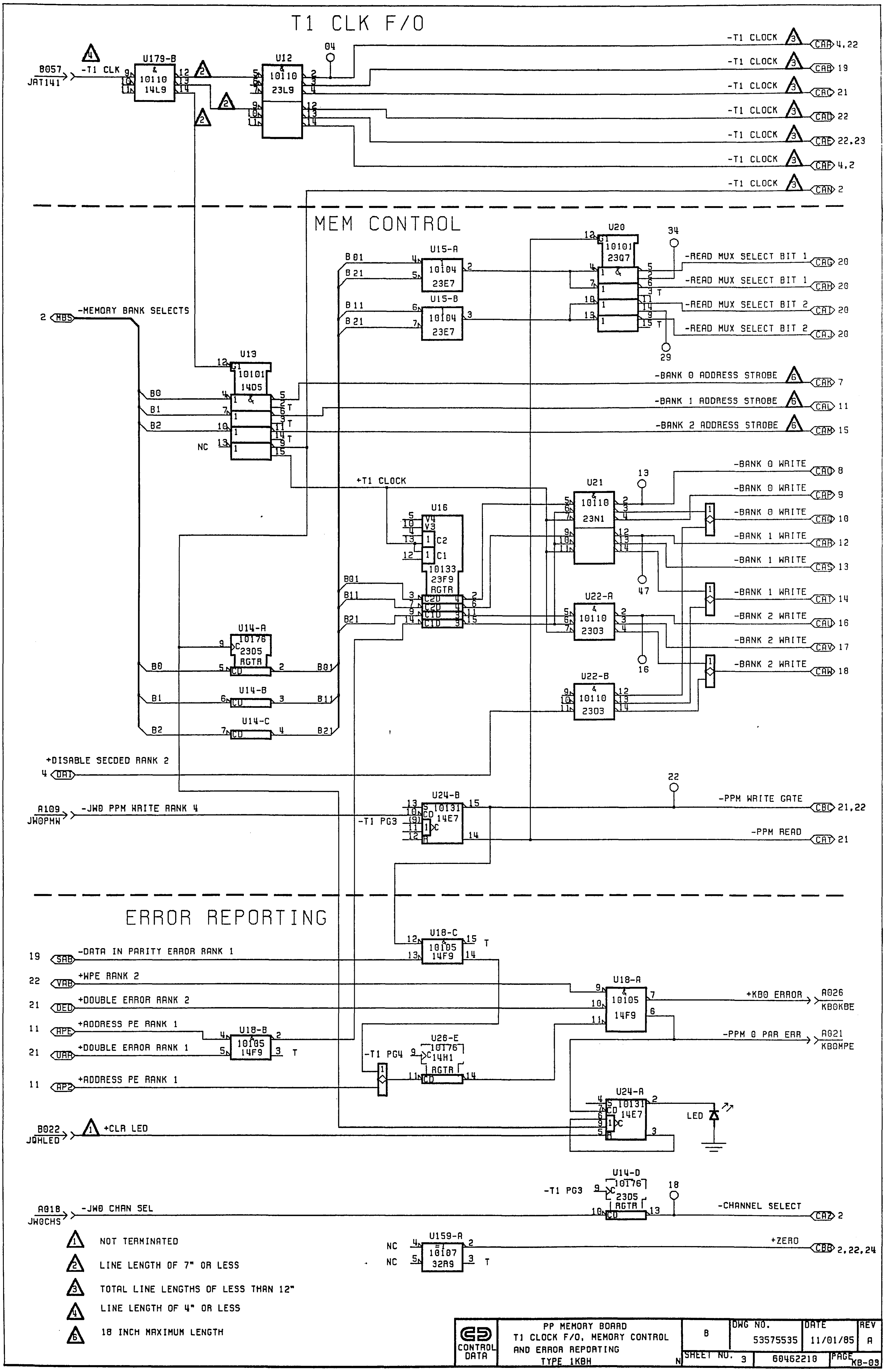
3 CAF -T1 CLOCK
B013 KA0A59 -KA0 Q DATA BIT 59
A013 KA0A60 -KA0 Q DATA BIT 60
B018 KA0A61 -KA0 Q DATA BIT 61
A015 KA0A62 -KA0 Q DATA BIT 62
B019 KA0A63 -KA0 Q DATA BIT 63
U11 10176 05C3 AGTA
U3 CODER 10161 14C3
U15-D 10104 23E7
09
+PPM 0 CHAN 15 OR 14 SEL B015 KB0MB0
U10-D 10104 23C3
08
+PPM 0 CHAN 14 OR 17 SEL A012 KB0MB1
U5 CODER 10161 05D5
U6 CODER 10161 05H1
U7 CODER 10161 05E7
U8 CODER 10161 05F9
3 CAZ -CHANNEL SELECT
-PPM 0 CHAN SEL 13 A017 KB0C13
-PPM 0 CHAN SEL 12 B017 KB0C12
-PPM 0 CHAN SEL 11 A016 KB0C11
-PPM 0 CHAN SEL 10 B016 KB0C10
-PPM 0 CHAN SEL 7 A032 KB0C07
-PPM 0 CHAN SEL 6 B035 KB0C06
-PPM 0 CHAN SEL 5 A033 KB0C05
-PPM 0 CHAN SEL 4 B033 KB0C04
-PPM 0 CHAN SEL 3 A030 KB0C03
-PPM 0 CHAN SEL 2 B031 KB0C02
-PPM 0 CHAN SEL 1 A031 KB0C01
-PPM 0 CHAN SEL 0 B030 KB0C00
-PPM 0 CHAN SEL 33 B021 KB0C33
-PPM 0 CHAN SEL 32 A020 KB0C32
-PPM 0 CHAN SEL 31 B020 KB0C31
-PPM 0 CHAN SEL 30 A019 KB0C30
-PPM 0 CHAN SEL 27 B027 KB0C27
-PPM 0 CHAN SEL 26 A028 KB0C26
-PPM 0 CHAN SEL 25 B028 KB0C25
-PPM 0 CHAN SEL 24 A027 KB0C24
-PPM 0 CHAN SEL 23 B026 KB0C23
-PPM 0 CHAN SEL 22 A025 KB0C22
-PPM 0 CHAN SEL 21 B025 KB0C21
-PPM 0 CHAN SEL 20 A023 KB0C20

BIT 0	BIT 1	CHANNEL SELECT DECODES
0	0	CHAN 14
0	1	CHAN 15
1	0	CHAN 17

1 NOT TERMINATED

2 LONG LINES, (AT LEAST 12")

CONTROL DATA	PP MEMORY BOARD BANK CONTROL AND CHANNEL SELECTS TYPE 1KBH	B	DWG NO. 53575535	DATE 11/01/85	REV A
		SHEET NO. 2	60462210	PAGE KB-02	



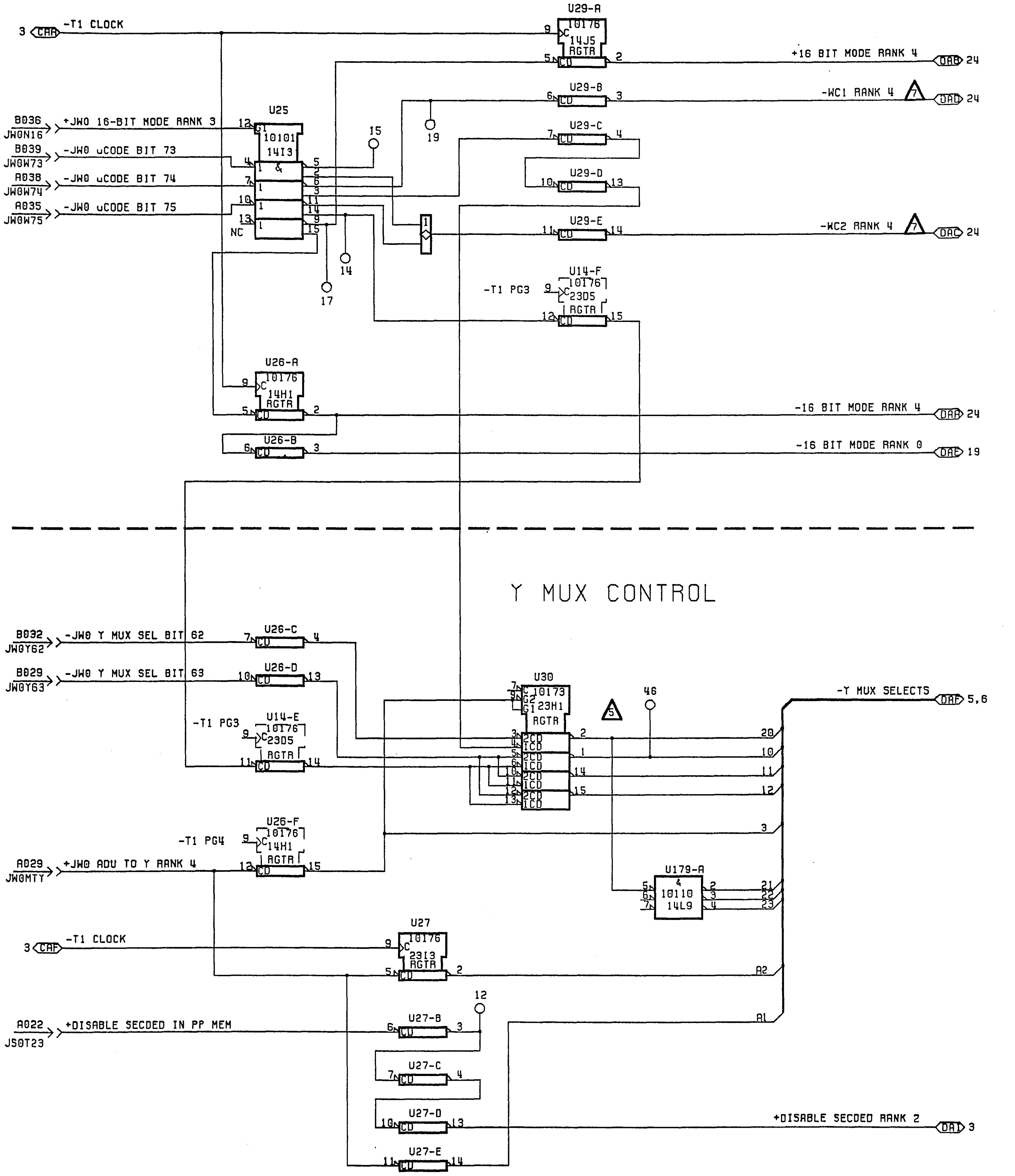
1. NOT TERMINATED
2. LINE LENGTH OF 7" OR LESS
3. TOTAL LINE LENGTHS OF LESS THAN 12"
4. LINE LENGTH OF 4" OR LESS
6. 18 INCH MAXIMUM LENGTH

CONTROL DATA

PP MEMORY BOARD
T1 CLOCK F/O, MEMORY CONTROL
AND ERROR REPORTING
TYPE 1KBH

B	DWG NO. 53575535	DATE 11/01/85	REV A
SHEET NO. 3	60462210	PAGE KB-09	

ADU DISASSEMBLY CONTROL



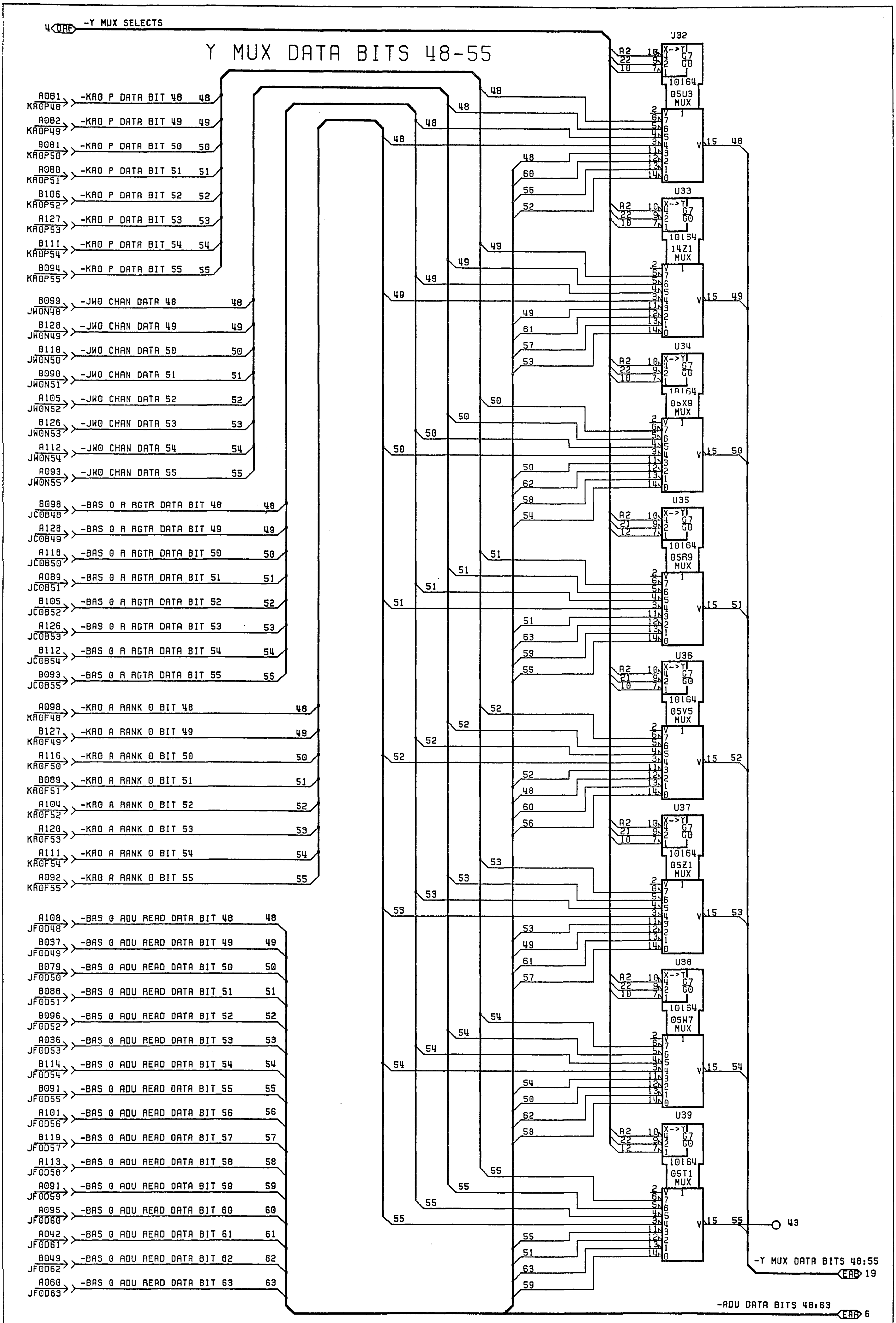
⚠5 THIS LINE MUST BE ROUTED TO THE 10110 BEFORE THE 10164'S

⚠7 THESE LINES MUST BE ROUTED TO THE 10101'S BEFORE THE 10174'S

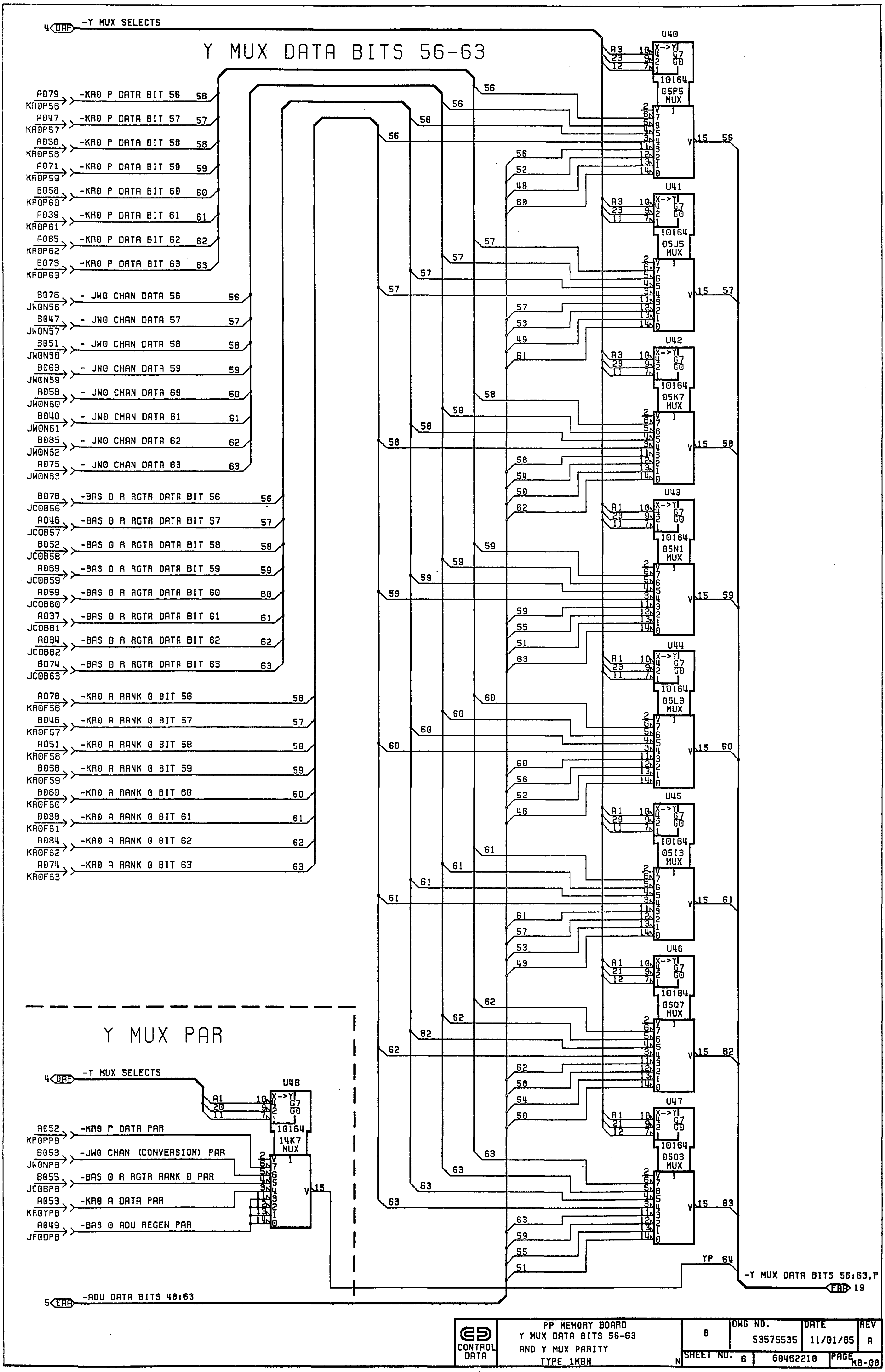
CONTROL DATA

PP MEMORY BOARD
ADU DISASSEMBLY CONTROL
AND Y MUX CONTROL
TYPE 1KBH

B	DWG NO. 53575535	DATE 11/01/85	REV A
SHEET NO. 4	60462210	PAGE K8-04	


4 DAF -Y MUX SELECTS
Y MUX DATA BITS 48-55
A081 KAOP48 -KAO P DATA BIT 48 48
A082 KAOP49 -KAO P DATA BIT 49 49
B081 KAOP50 -KAO P DATA BIT 50 50
A080 KAOP51 -KAO P DATA BIT 51 51
B106 KAOP52 -KAO P DATA BIT 52 52
A127 KAOP53 -KAO P DATA BIT 53 53
B111 KAOP54 -KAO P DATA BIT 54 54
B094 KAOP55 -KAO P DATA BIT 55 55
B099 JWON48 -JWO CHAN DATA 48 48
B128 JWON49 -JWO CHAN DATA 49 49
B118 JWON50 -JWO CHAN DATA 50 50
B090 JWON51 -JWO CHAN DATA 51 51
A105 JWON52 -JWO CHAN DATA 52 52
B126 JWON53 -JWO CHAN DATA 53 53
A112 JWON54 -JWO CHAN DATA 54 54
A093 JWON55 -JWO CHAN DATA 55 55
B098 JCOB48 -BAS 0 A AGTA DATA BIT 48 48
A128 JCOB49 -BAS 0 A AGTA DATA BIT 49 49
A118 JCOB50 -BAS 0 A AGTA DATA BIT 50 50
A089 JCOB51 -BAS 0 A AGTA DATA BIT 51 51
B105 JCOB52 -BAS 0 A AGTA DATA BIT 52 52
A126 JCOB53 -BAS 0 A AGTA DATA BIT 53 53
B112 JCOB54 -BAS 0 A AGTA DATA BIT 54 54
B093 JCOB55 -BAS 0 A AGTA DATA BIT 55 55
A098 KAOF48 -KAO A AANK 0 BIT 48 48
B127 KAOF49 -KAO A AANK 0 BIT 49 49
A116 KAOF50 -KAO A AANK 0 BIT 50 50
B089 KAOF51 -KAO A AANK 0 BIT 51 51
A104 KAOF52 -KAO A AANK 0 BIT 52 52
A120 KAOF53 -KAO A AANK 0 BIT 53 53
A111 KAOF54 -KAO A AANK 0 BIT 54 54
A092 KAOF55 -KAO A AANK 0 BIT 55 55
A108 JFOD48 -BAS 0 ADU READ DATA BIT 48 48
B037 JFOD49 -BAS 0 ADU READ DATA BIT 49 49
B079 JFOD50 -BAS 0 ADU READ DATA BIT 50 50
B086 JFOD51 -BAS 0 ADU READ DATA BIT 51 51
B096 JFOD52 -BAS 0 ADU READ DATA BIT 52 52
A036 JFOD53 -BAS 0 ADU READ DATA BIT 53 53
B114 JFOD54 -BAS 0 ADU READ DATA BIT 54 54
B091 JFOD55 -BAS 0 ADU READ DATA BIT 55 55
A101 JFOD56 -BAS 0 ADU READ DATA BIT 56 56
B119 JFOD57 -BAS 0 ADU READ DATA BIT 57 57
A113 JFOD58 -BAS 0 ADU READ DATA BIT 58 58
A091 JFOD59 -BAS 0 ADU READ DATA BIT 59 59
A095 JFOD60 -BAS 0 ADU READ DATA BIT 60 60
A042 JFOD61 -BAS 0 ADU READ DATA BIT 61 61
B049 JFOD62 -BAS 0 ADU READ DATA BIT 62 62
A060 JFOD63 -BAS 0 ADU READ DATA BIT 63 63
U32 10164 05U3 MUX
U33 10164 14Z1 MUX
U34 10164 05X9 MUX
U35 10164 05A9 MUX
U36 10164 05V5 MUX
U37 10164 05Z1 MUX
U38 10164 05W7 MUX
U39 10164 05T1 MUX
X->Y G7 G0
A2 22 18
A2 21 12
A2 21 18
15 48
15 49
15 50
15 51
15 52
15 53
15 54
15 55
43
-Y MUX DATA BITS 48:55
EAB 19
-ADU DATA BITS 48:63
EAB 6

CONTROL DATA	PP MEMORY BOARD Y MUX DATA BITS 48-55 TYPE 1KBH	B	DWG NO. 53575535	DATE 11/01/85	REV A
		SHEET NO. 5	60462210	PAGE KB-05	



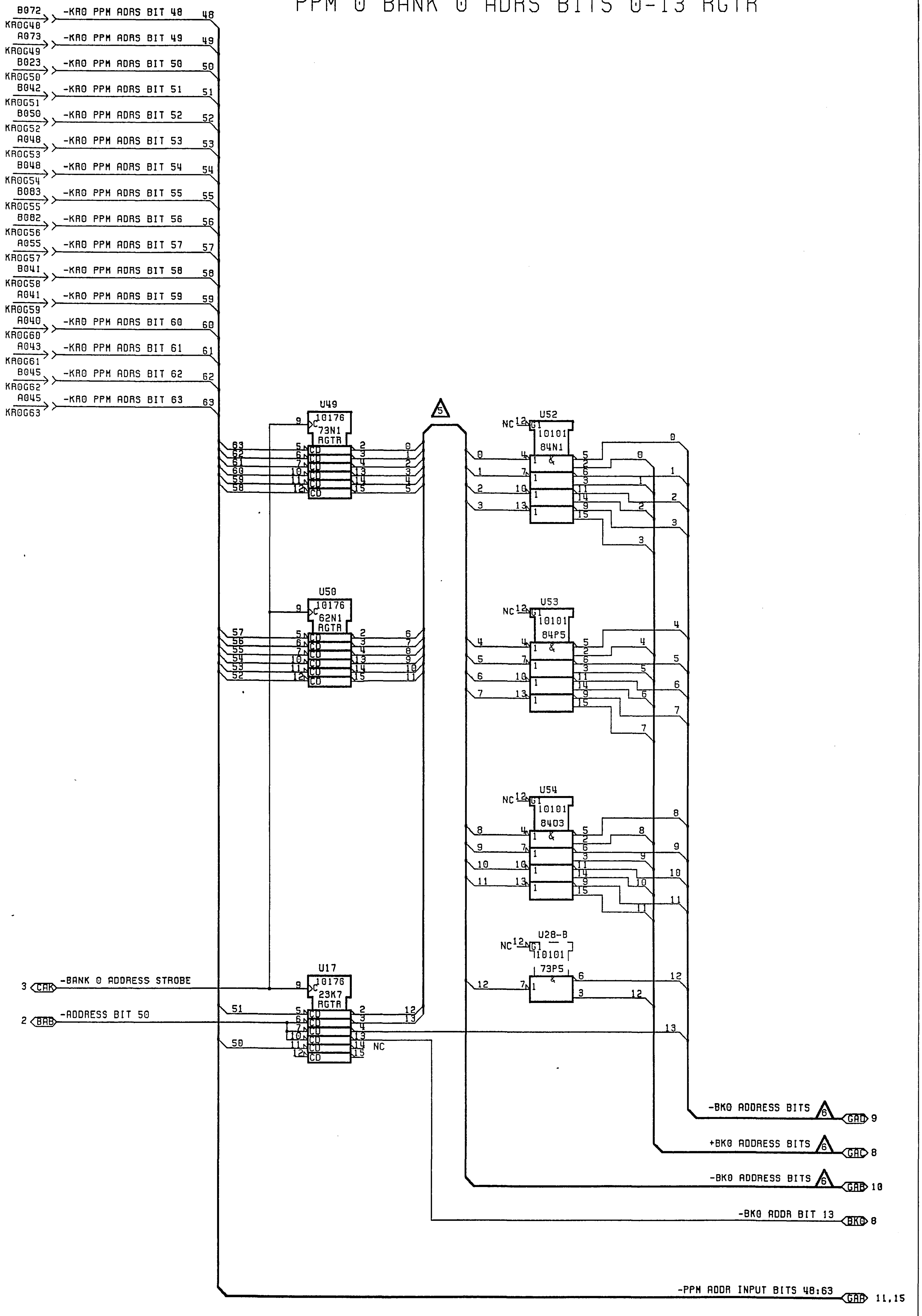
Y MUX DATA BITS 56-63
4 DAF -Y MUX SELECTS
A079 KA0P56 -KA0 P DATA BIT 56
A047 KA0P57 -KA0 P DATA BIT 57
A050 KA0P58 -KA0 P DATA BIT 58
A071 KA0P59 -KA0 P DATA BIT 59
B058 KA0P60 -KA0 P DATA BIT 60
A039 KA0P61 -KA0 P DATA BIT 61
A085 KA0P62 -KA0 P DATA BIT 62
B073 KA0P63 -KA0 P DATA BIT 63
B076 JW0N56 - JW0 CHAN DATA 56
B047 JW0N57 - JW0 CHAN DATA 57
B051 JW0N58 - JW0 CHAN DATA 58
B069 JW0N59 - JW0 CHAN DATA 59
A058 JW0N60 - JW0 CHAN DATA 60
B040 JW0N61 - JW0 CHAN DATA 61
B085 JW0N62 - JW0 CHAN DATA 62
A075 JW0N63 - JW0 CHAN DATA 63
B078 JC0B56 -BAS 0 A AGTA DATA BIT 56
A046 JC0B57 -BAS 0 A AGTA DATA BIT 57
B052 JC0B58 -BAS 0 A AGTA DATA BIT 58
A069 JC0B59 -BAS 0 A AGTA DATA BIT 59
A059 JC0B60 -BAS 0 A AGTA DATA BIT 60
A037 JC0B61 -BAS 0 A AGTA DATA BIT 61
A084 JC0B62 -BAS 0 A AGTA DATA BIT 62
B074 JC0B63 -BAS 0 A AGTA DATA BIT 63
A078 KA0F56 -KA0 A RANK 0 BIT 56
B046 KA0F57 -KA0 A RANK 0 BIT 57
A051 KA0F58 -KA0 A RANK 0 BIT 58
B068 KA0F59 -KA0 A RANK 0 BIT 59
B060 KA0F60 -KA0 A RANK 0 BIT 60
B038 KA0F61 -KA0 A RANK 0 BIT 61
B084 KA0F62 -KA0 A RANK 0 BIT 62
A074 KA0F63 -KA0 A RANK 0 BIT 63
U40 10164 05P5 MUX
U41 10164 05J5 MUX
U42 10164 05K7 MUX
U43 10164 05N1 MUX
U44 10164 05L9 MUX
U45 10164 05I3 MUX
U46 10164 05Q7 MUX
U47 10164 05O3 MUX
X->Y G7 G0
A3 23 12
A3 23 11
A3 23 11
A1 23 11
A1 23 11
A1 20 11
A1 21 12
A1 21 12
15 56
15 57
15 58
15 59
15 60
15 61
15 62
15 63
YP 64
-Y MUX DATA BITS 56:63,P
FAA 19
Y MUX PAR
4 DAF -Y MUX SELECTS
U48 10164 14K7 MUX
A1 20 11
A052 KA0PPB -KA0 P DATA PAR
B053 JW0NPB -JW0 CHAN (CONVERSION) PAR
B055 JC0BPB -BAS 0 A AGTA RANK 0 PAR
A053 KA0YPB -KA0 A DATA PAR
A049 JF0DPB -BAS 0 ADU REGEN PAR
5 EAA -ADU DATA BITS 48:63

CONTROL DATA

PP MEMORY BOARD
Y MUX DATA BITS 56-63
AND Y MUX PARITY
TYPE 1KBH

B	DWG NO. 53575535	DATE 11/01/85	REV A
SHEET NO. 6	60462210	PAGE KB-06	

PPM 0 BANK 0 ADRS BITS 0-13 RGTR


B072 KR0G48 -KR0 PPM ADRS BIT 48 48
A073 KR0G49 -KR0 PPM ADRS BIT 49 49
B023 KR0G50 -KR0 PPM ADRS BIT 50 50
B042 KR0G51 -KR0 PPM ADRS BIT 51 51
B050 KR0G52 -KR0 PPM ADRS BIT 52 52
A048 KR0G53 -KR0 PPM ADRS BIT 53 53
B048 KR0G54 -KR0 PPM ADRS BIT 54 54
B083 KR0G55 -KR0 PPM ADRS BIT 55 55
B082 KR0G56 -KR0 PPM ADRS BIT 56 56
A055 KR0G57 -KR0 PPM ADRS BIT 57 57
B041 KR0G58 -KR0 PPM ADRS BIT 58 58
A041 KR0G59 -KR0 PPM ADRS BIT 59 59
A040 KR0G60 -KR0 PPM ADRS BIT 60 60
A043 KR0G61 -KR0 PPM ADRS BIT 61 61
B045 KR0G62 -KR0 PPM ADRS BIT 62 62
A045 KR0G63 -KR0 PPM ADRS BIT 63 63
U49 10176 73N1 RGTR
U50 10176 62N1 RGTR
U17 10176 23K7 RGTR
U52 10101 84N1
U53 10101 84P5
U54 10101 8403
U28-B 10101 73P5
NC
5
3 CAK -BANK 0 ADDRESS STROBE
2 BAB -ADDRESS BIT 50
-BK0 ADDRESS BITS 6 GAD 9
+BK0 ADDRESS BITS 6 GAC 8
-BK0 ADDRESS BITS 6 GAB 10
-BK0 ADDR BIT 13 BKQ 8
-PPM ADDR INPUT BITS 48:63 GAA 11,15

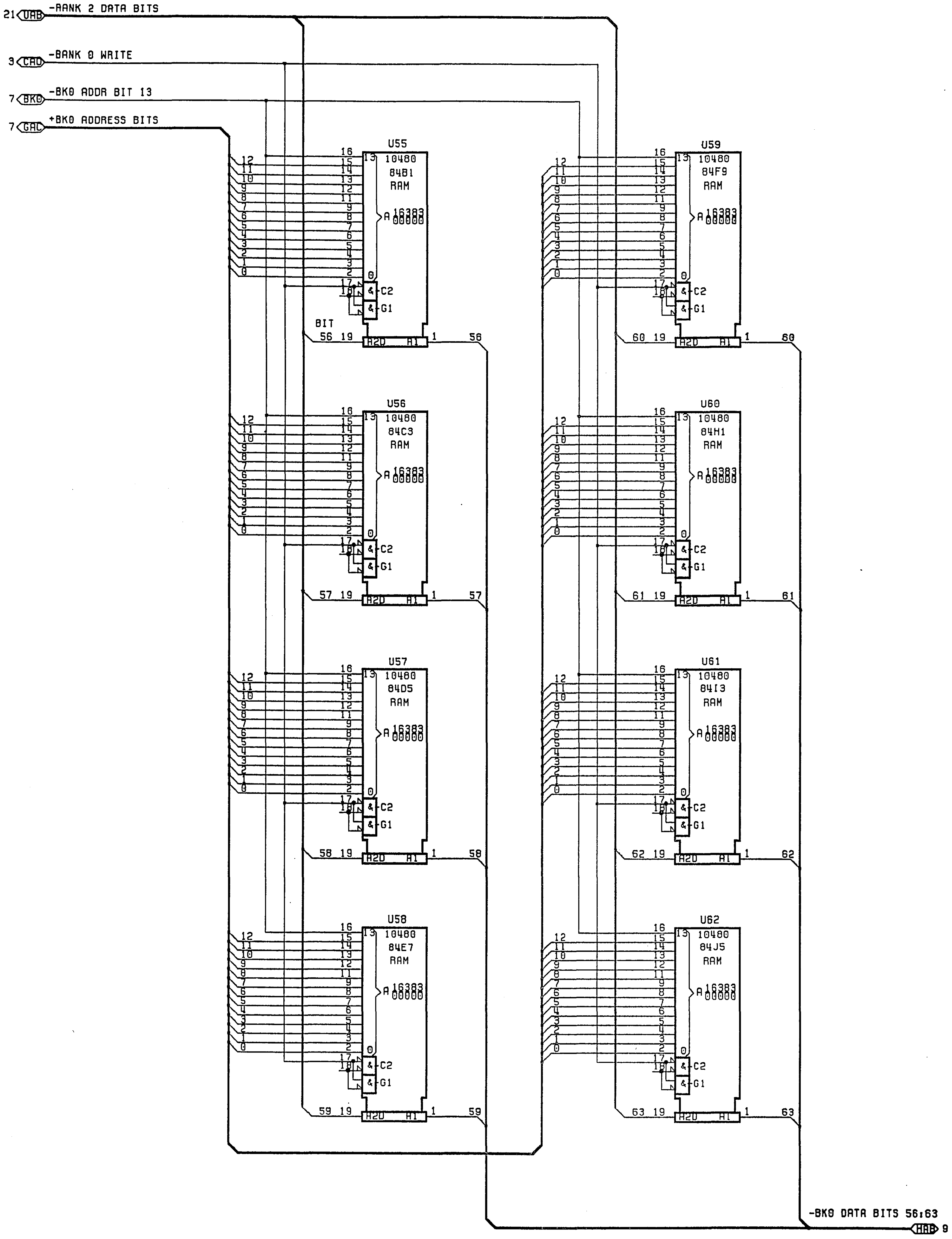
5 THESE LINES MUST BE ROUTED TO THE 10101'S BEFORE THE 10480'S

6 18 INCH MAXIMUM LENGTH

CONTROL DATA	PP MEMORY BOARD BANK 0 ADDRESS BITS 0:13 TYPE 1KBH	B	DWG NO. 53575535	DATE 11/01/85	REV A
		SHEET NO. 7	60462210	PAGE KB-07	

BANK 0 RAM DATA BITS 56-63

PPM 0 & 3



CONTROL DATA

PP MEMORY BOARD
BANK 0 DATA BITS 56:63
TYPE 1KBH

B

DWG NO. 53575535

DATE 11/01/85

REV A

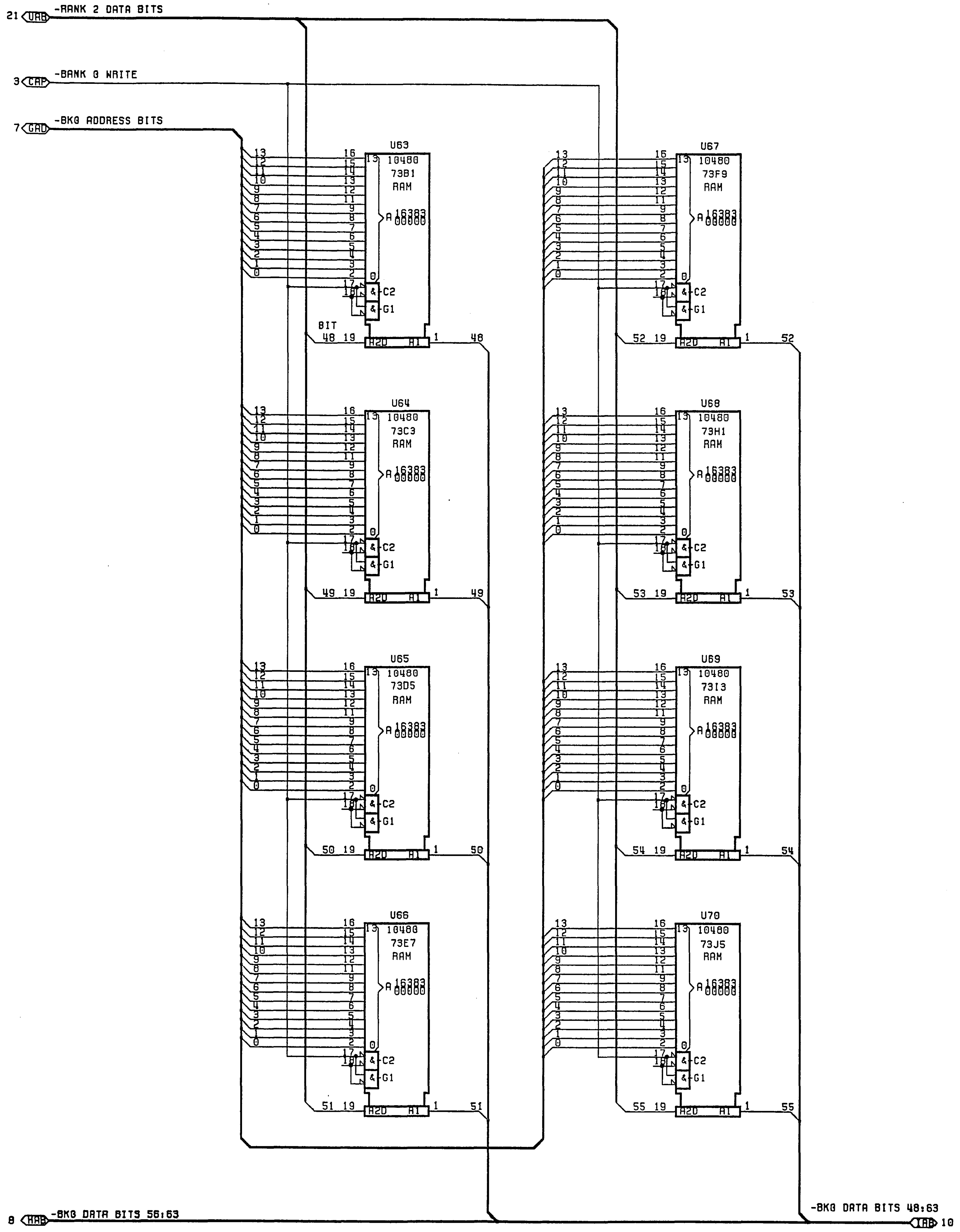
SHEET NO. 8

60462210

PAGE KB-08

BANK 0 RAM DATA BITS 48-55

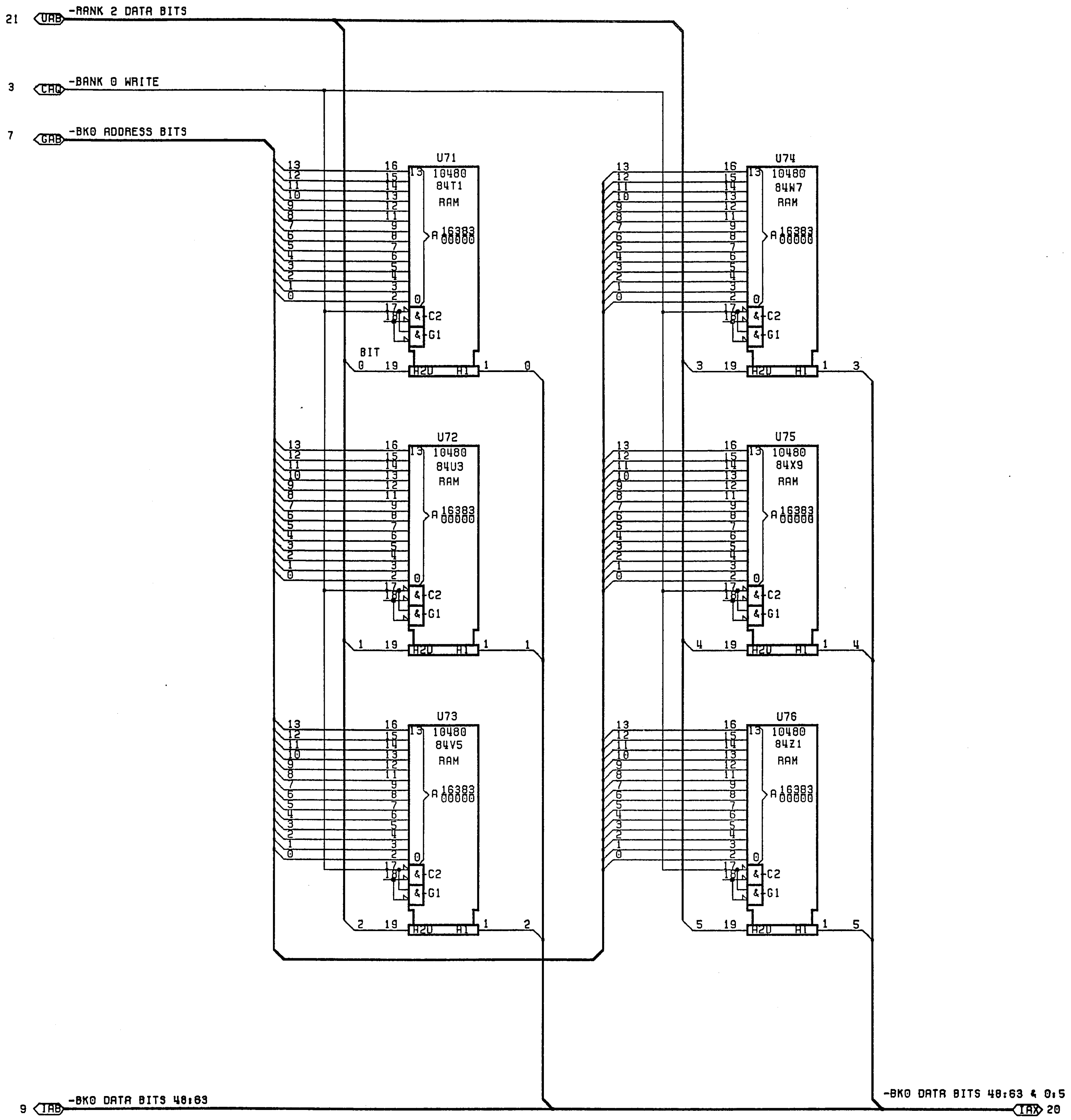
PPM 0 & 3



CONTROL DATA	PP MEMORY BOARD BANK 0 DATA BITS 48:55 TYPE 1KBH	B	DWG NO. 53575535	DATE 11/01/85	REV A
		SHEET NO. 9	60462210	PAGE K8-09	

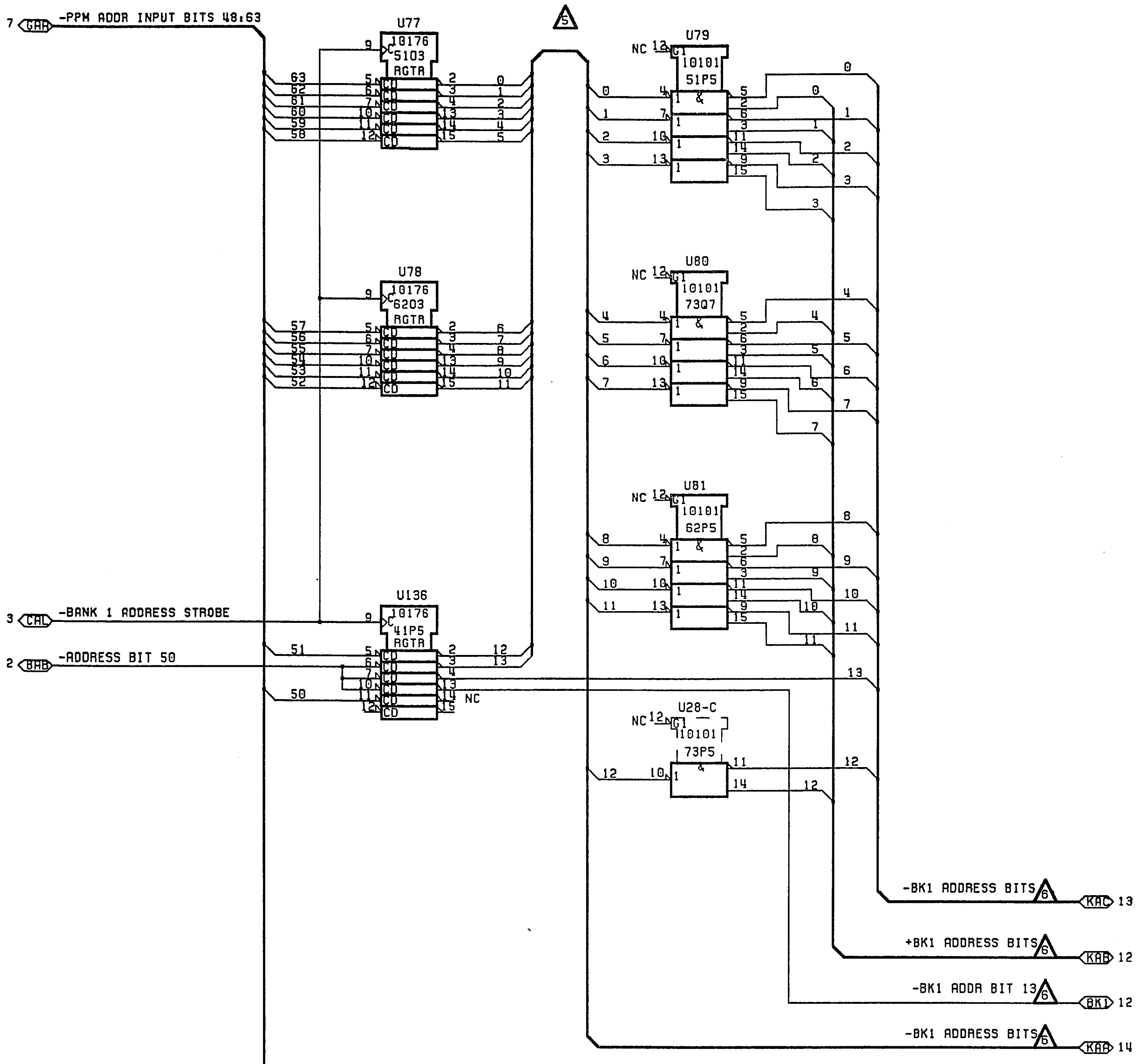
BANK 0 SECDED BITS 0-5

PPM 0 & 3

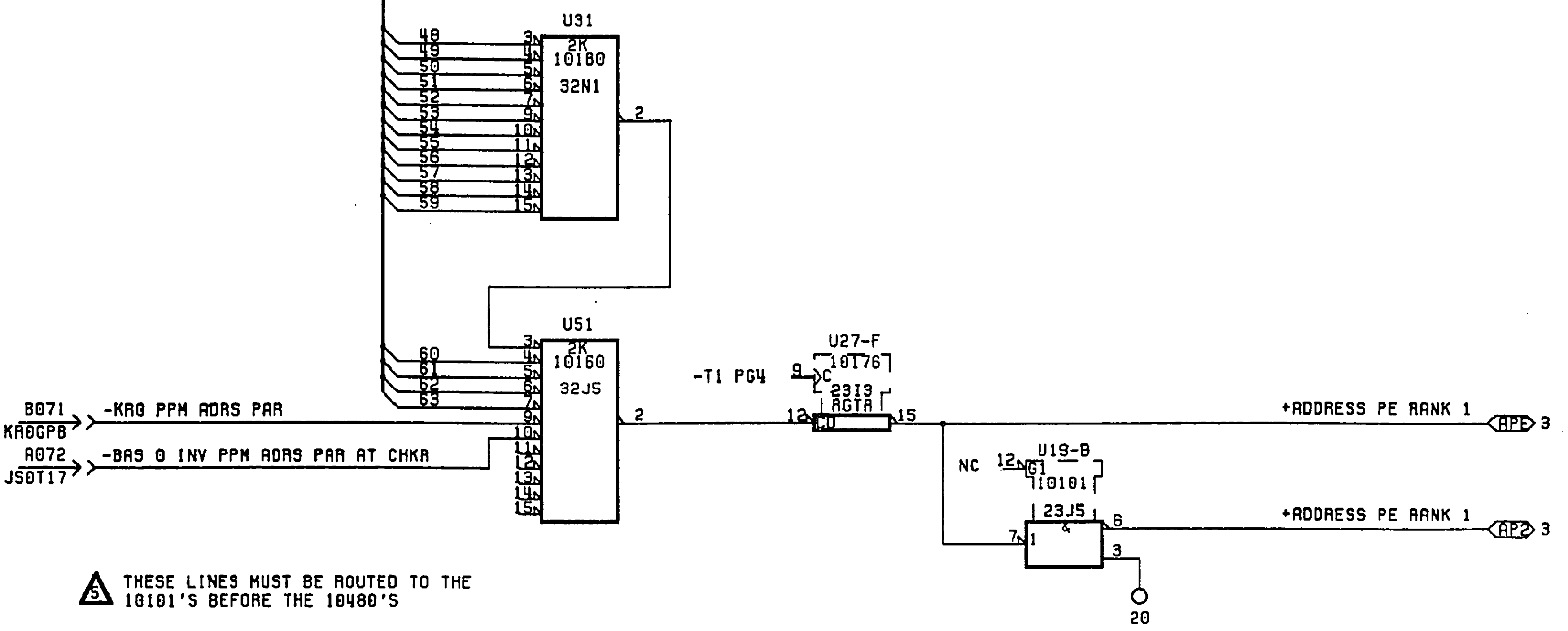


CONTROL DATA	PP MEMORY BOARD BANK 0 SECED BITS 0:5 TYPE 1KBH	B	DWG NO. 53575535	DATE 11/01/85	REV A
		SHEET NO. 10	60462210	PAGE KB-10	

PPM 0 BANK 1 ADRS BITS 0-13 RGTR



PPM 0 ADRS PAR CHECKER



⚠5 THESE LINES MUST BE ROUTED TO THE 10101'S BEFORE THE 10480'S

⚠6 18 INCH MAXIMUM LENGTH

CONTROL DATA

PP MEMORY BOARD
BANK 1 ADDRESS BITS 0:13
AND ADDRESS PARITY
TYPE 1KBH

B

DWG NO. 53575535

DATE 11/01/85

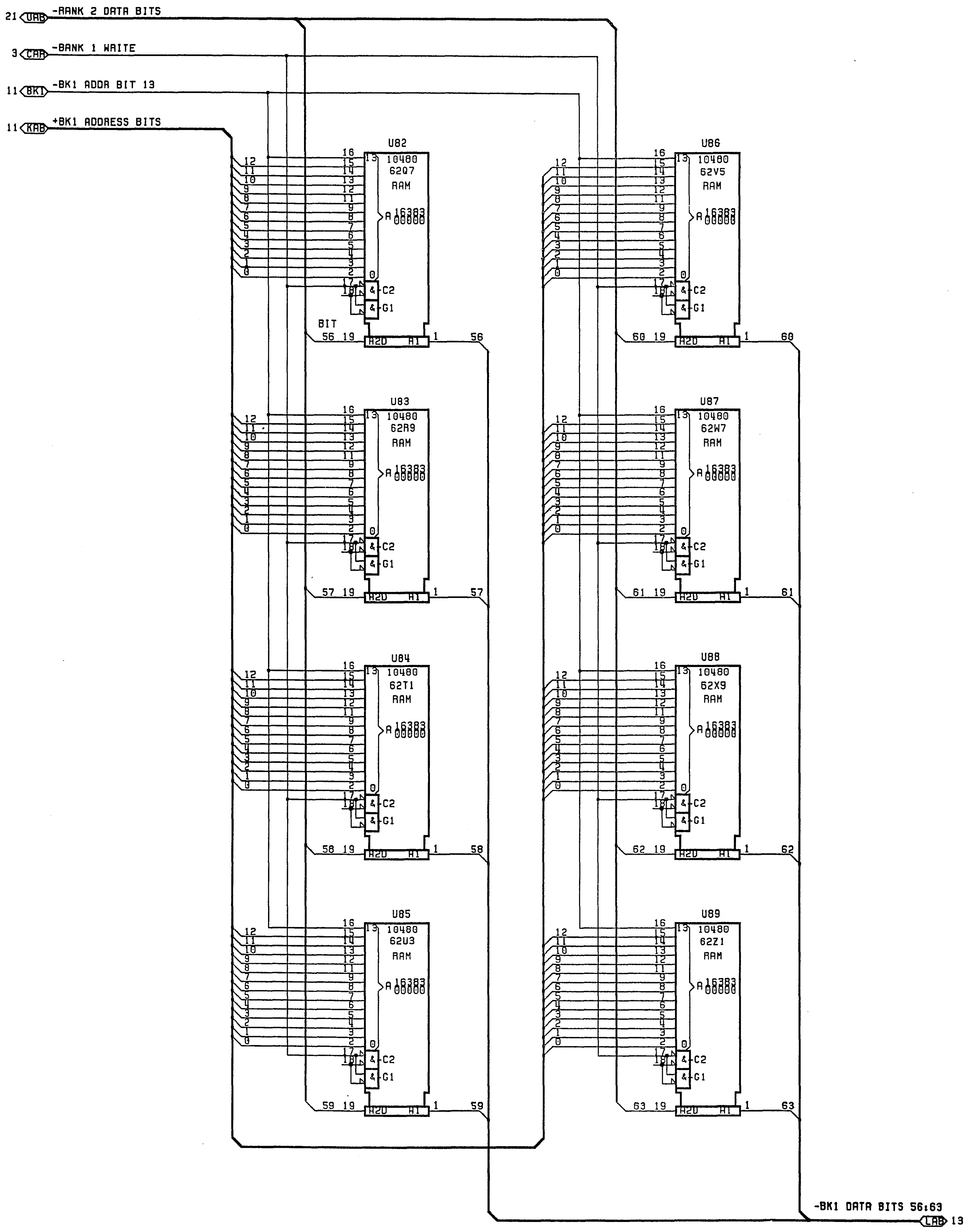
REV A

SHEET NO. 11 60462210

PAGE K8-11

BANK 1 RAM DATA BITS 56-63

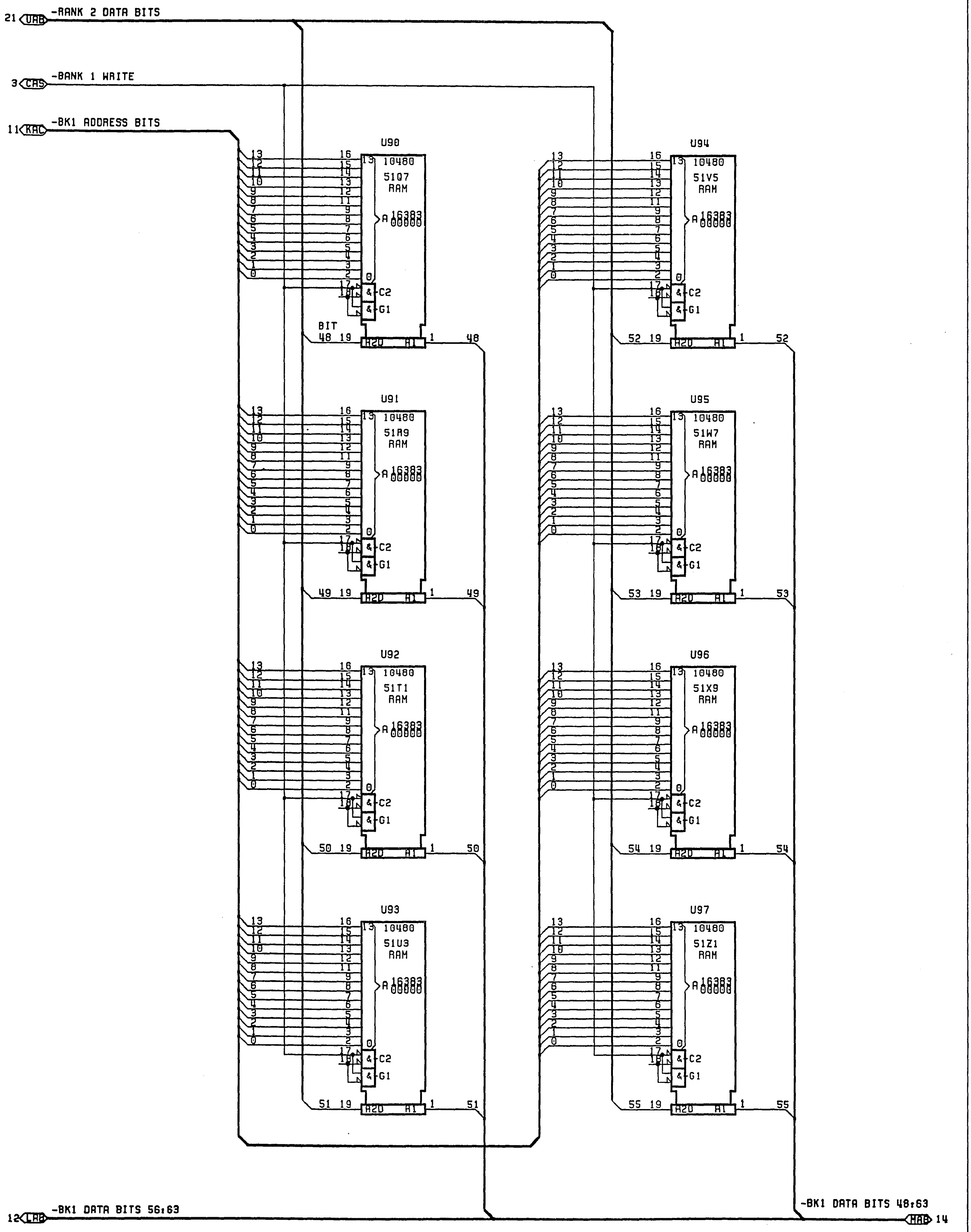
PPM 1 & 4



CONTROL DATA	PP MEMORY BOARD BANK 1 DATA BITS 56:63 TYPE 1KBH	B	DWG NO. 53575535	DATE 11/01/85	REV A
		N	SHEET NO. 12	60462210	PAGE KB-12

BANK 1 RAM DATA BITS 48-55

PPM 1 & 4



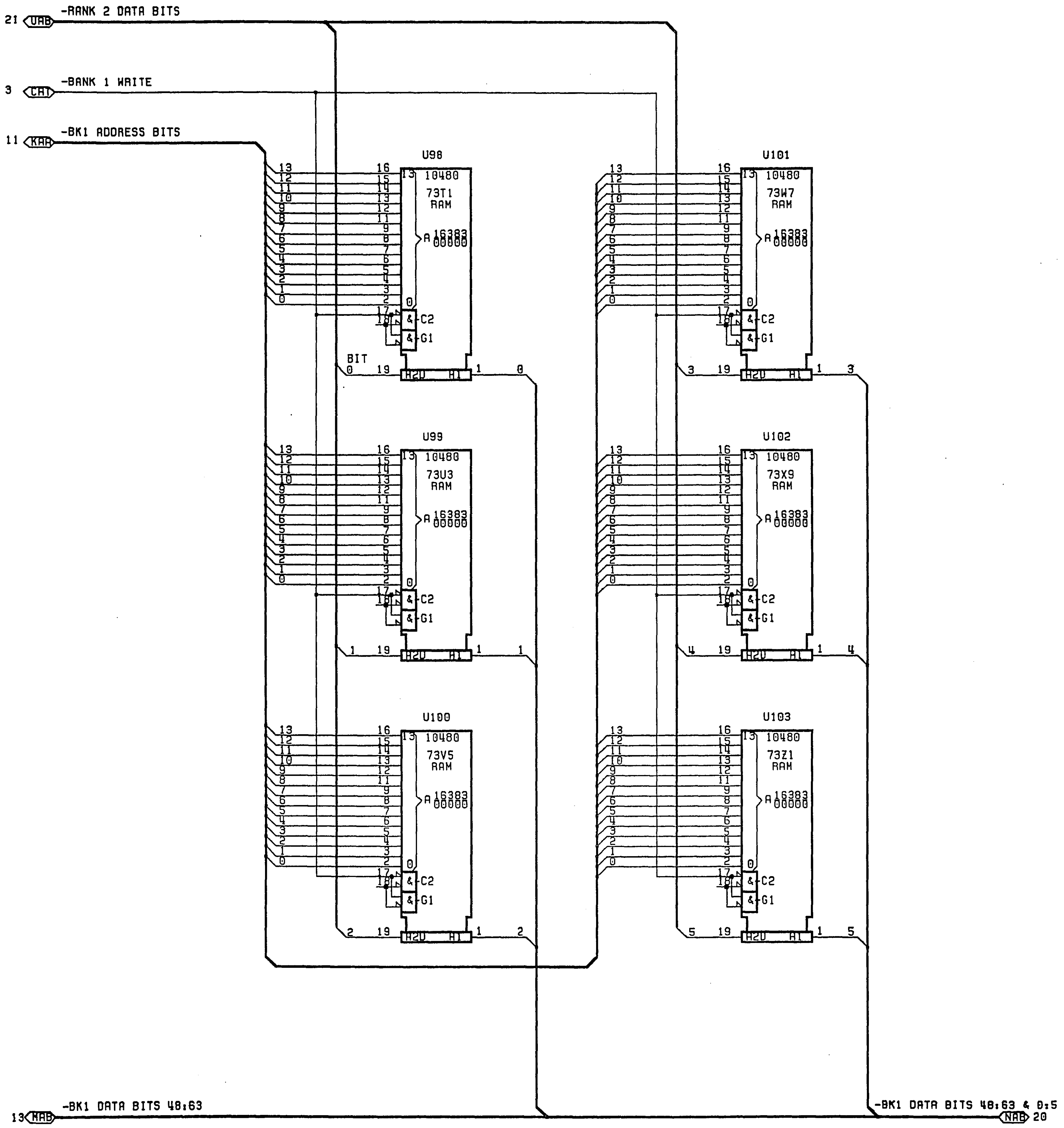
CONTROL DATA

PP MEMORY BOARD
BANK 1 DATA BITS 48:55
TYPE 1KBH

B	DWG NO. 53575535	DATE 11/01/85	REV A
SHEET NO. 13	60462210	PAGE KB-13	

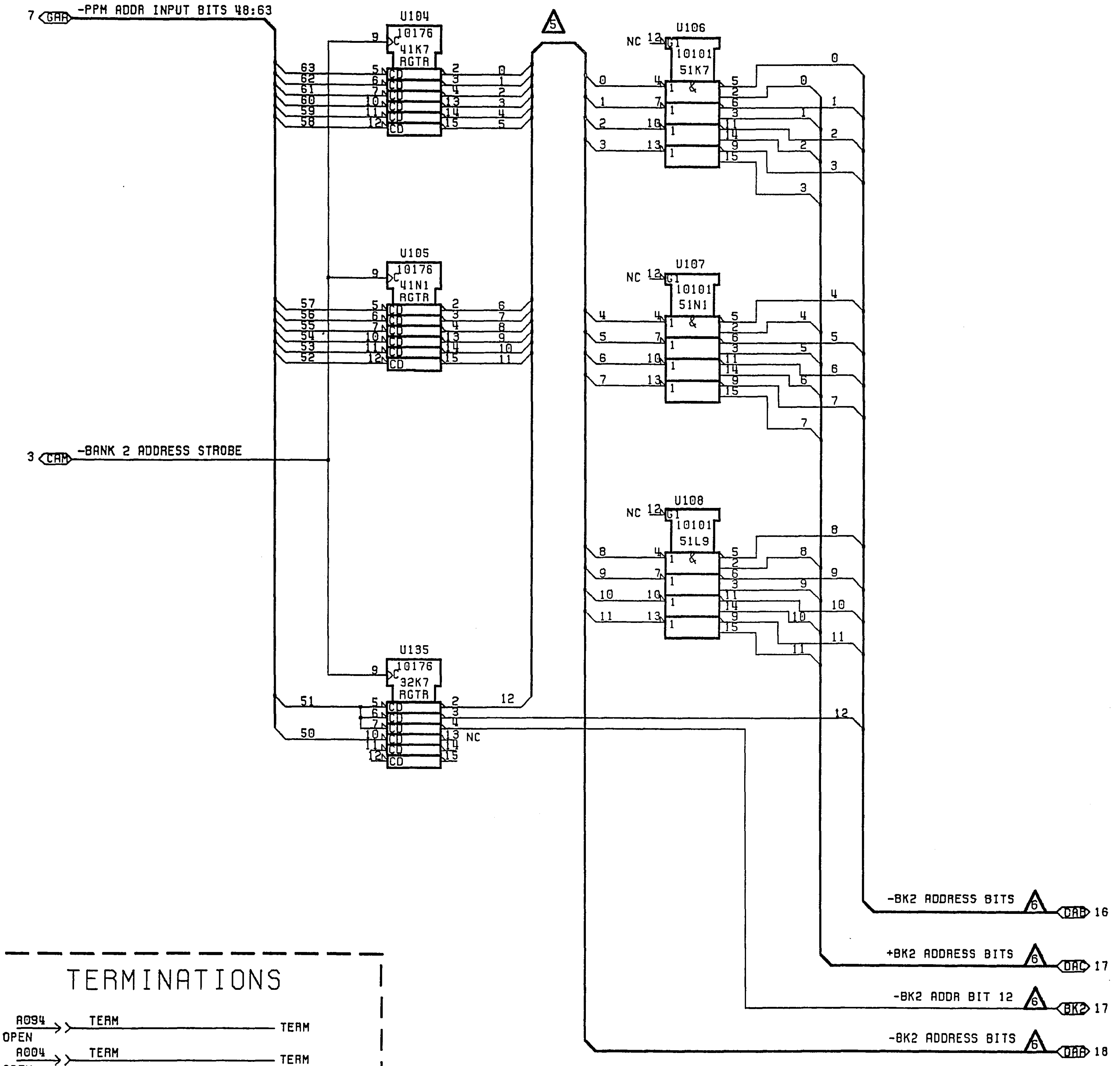
BANK 1 SECDED BITS 0-5

PPM 1 & 4



CONTROL DATA	PP MEMORY BOARD BANK 1 SECDED BITS 0:5 TYPE 1KBH	B	DWG NO. 53575535	DATE 11/01/85	REV A
			SHEET NO. 14	60462210	PAGE KB-14

PPM 0 BANK 2 ADRS BITS 0-12 RGTR


7 GAA -PPM ADDR INPUT BITS 48:63
3 CAM -BANK 2 ADDRESS STROBE
U104
10176
41K7
RGTR
63
62
61
60
59
58
U105
10176
41N1
RGTR
57
56
55
54
53
52
U135
10176
32K7
RGTR
51
50
NC
5
U106
10101
51K7
U107
10101
51N1
U108
10101
51L9
NC
G1
&
CD
-BK2 ADDRESS BITS 6 DAB 16
+BK2 ADDRESS BITS 6 DAC 17
-BK2 ADDR BIT 12 6 BK2 17
-BK2 ADDRESS BITS 6 DAB 18

TERMINATIONS

A094	OPEN	TERM	TERM
A004	OPEN	TERM	TERM
A005	JQHLED	RN1-4	TERM
A006	OPEN	TERM	TERM
A010	JKMC03	RN2-2	TERM
A011	JCADMC	RN2-3	TERM
B003	KROCHP	RN1-2	TERM
B004	JSAD48	-MAC PPM ADRS BIT 48	TERM
B005	JSAD49	-MAC PPM ADRS BIT 49	TERM
B011	JT08KM	-NIO EC BIT 34	TERM

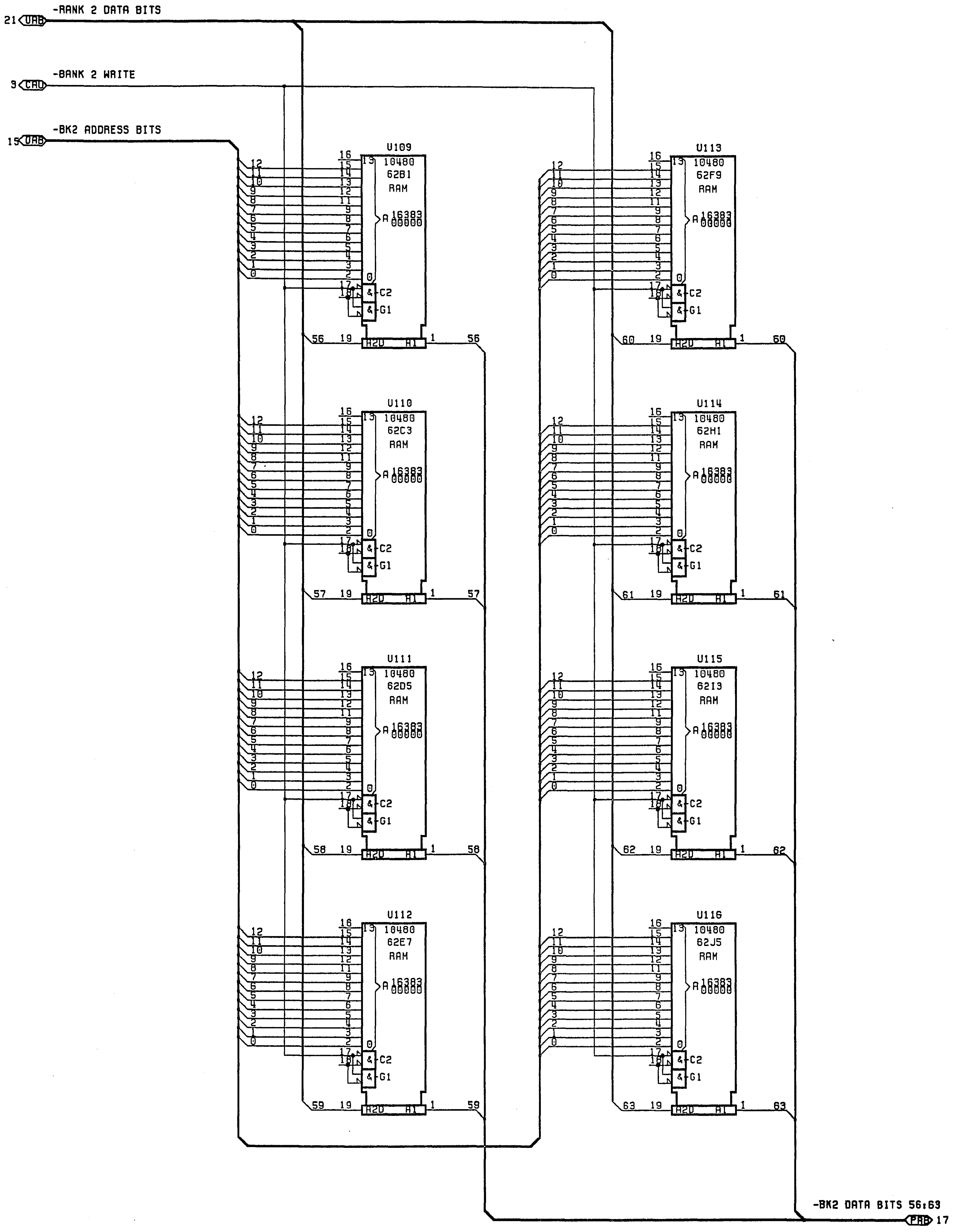
△5 THESE LINES MUST BE ROUTED TO THE 10101'S BEFORE THE 10480'S

△6 18 INCHES MAXIMUM LENGTH

CONTROL DATA	PP MEMORY BOARD BANK 2 ADDRESS BITS 0-12 TYPE 1KBH	B	DWG NO. 53575535	DATE 11/01/85	REV A
	N	SHEET NO. 15	60462210	PAGE K8-15	

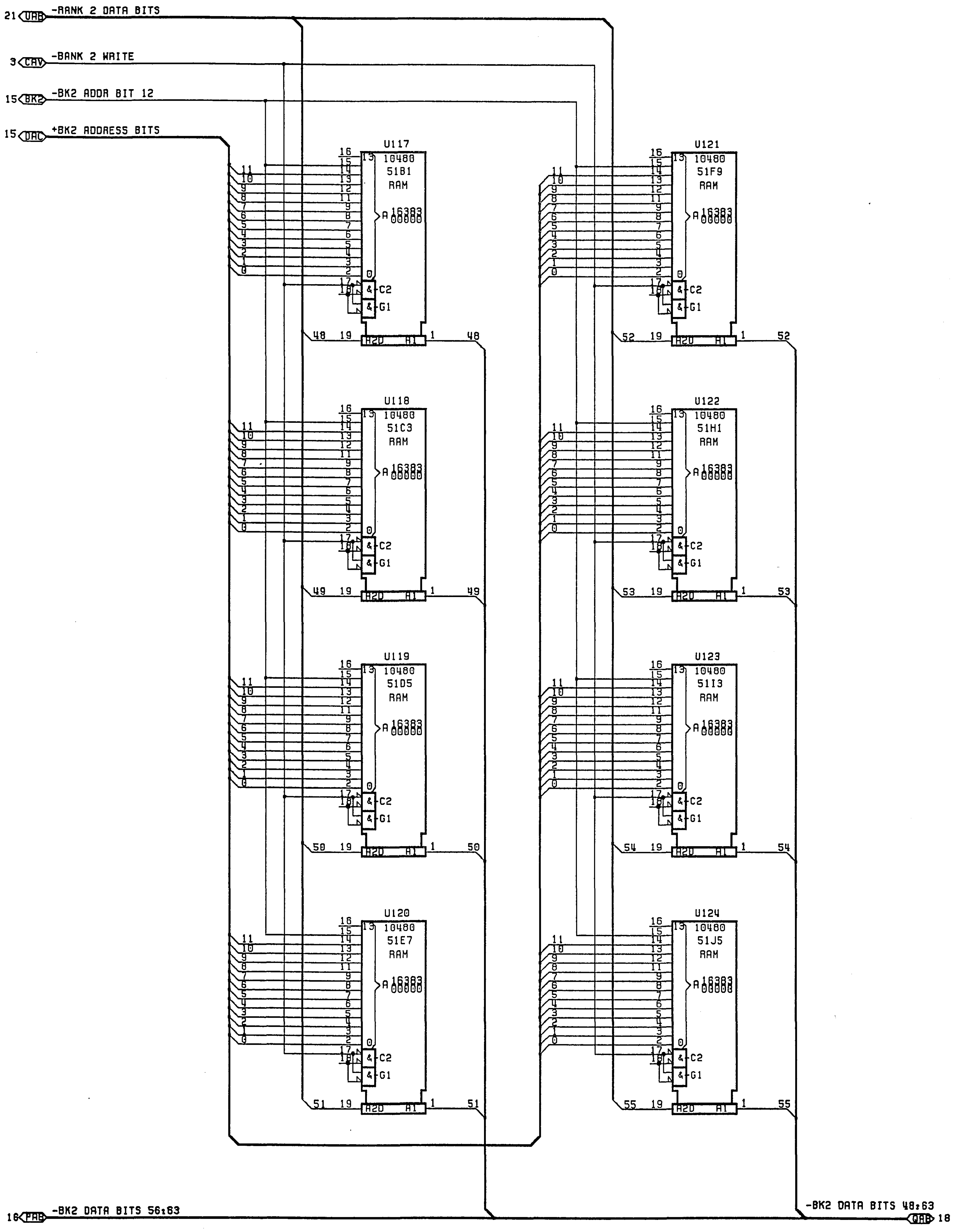
BANK 2 RAM DATA BITS 56-63

PPM 2



CONTROL DATA	PP MEMORY BOARD BANK 2 DATA BITS 56:63	B	DWG NO.	53575535	DATE 11/01/85	REV A
	TYPE 1KBH	N	SHEET NO. 16	60462210	PAGE KB-18	

BANK 2 RAM DATA BITS 48-55
PPM 2



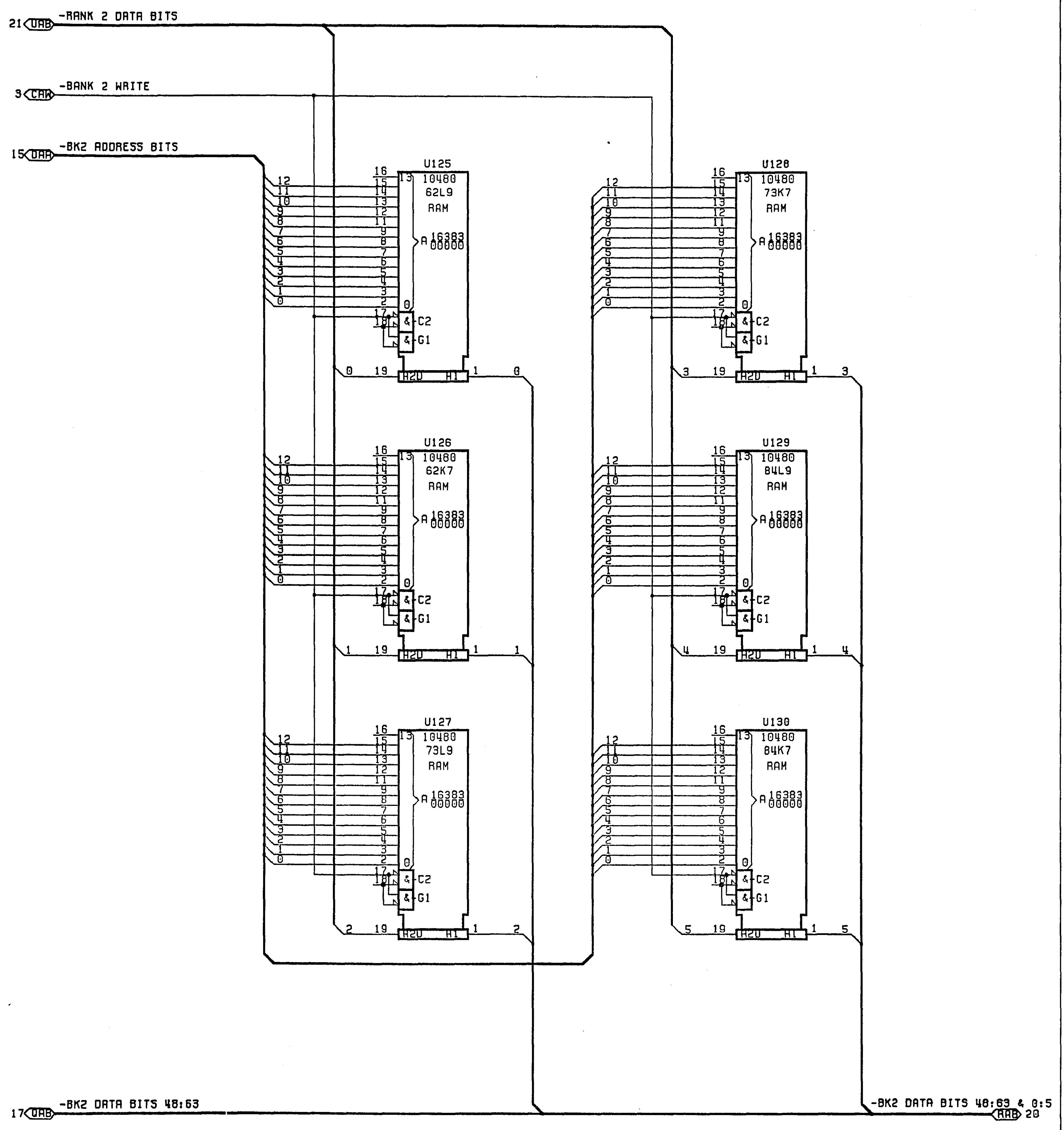
CONTROL DATA

PP MEMORY BOARD
BANK 2 DATA BITS 48:55
TYPE 1KBH

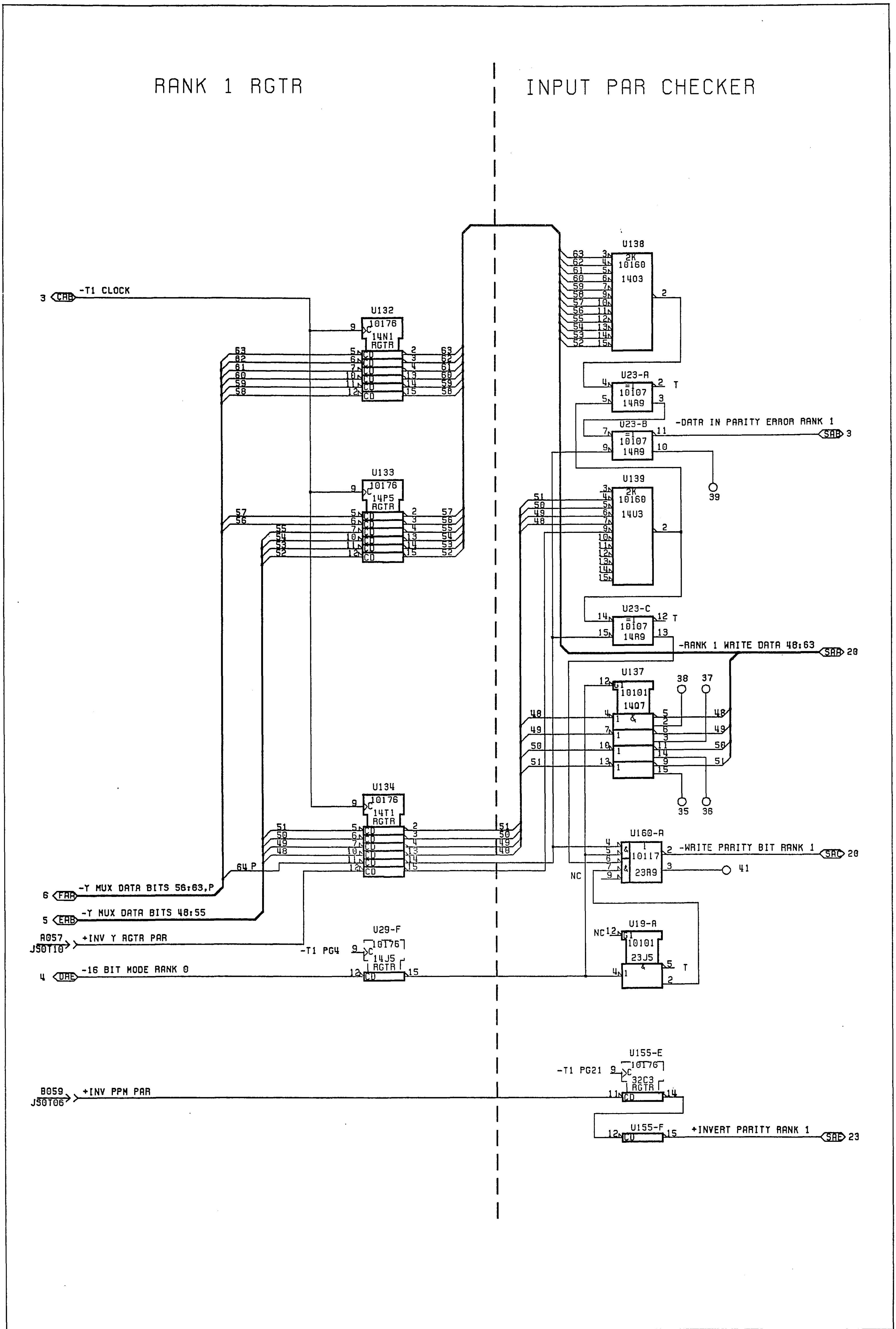
B	DWG NO. 53575535	DATE 11/01/85	REV A
SHEET NO. 17	60462210	PAGE KB-17	

BANK 2 SECDED BITS 0-5

PPM 2


21 DAB -BANK 2 DATA BITS
3 CAH -BANK 2 WRITE
15 DAH -BK2 ADDRESS BITS
U125 10480 62L9 RAM A 16383 00000
U126 10480 62K7 RAM A 16383 00000
U127 10480 73L9 RAM A 16383 00000
U128 10480 73K7 RAM A 16383 00000
U129 10480 84L9 RAM A 16383 00000
U130 10480 84K7 RAM A 16383 00000
C2
G1
A2D
A1
17 DAB -BK2 DATA BITS 48:63
-BK2 DATA BITS 48:63 & 0:5 AAB 20

CONTROL DATA	PP MEMORY BOARD BANK 2 SECDED BITS 0:5 TYPE 1KBH	B	DWG NO. 59575535	DATE 11/01/85	REV A
		N	SHEET NO. 18	60462210	PAGE KB-18

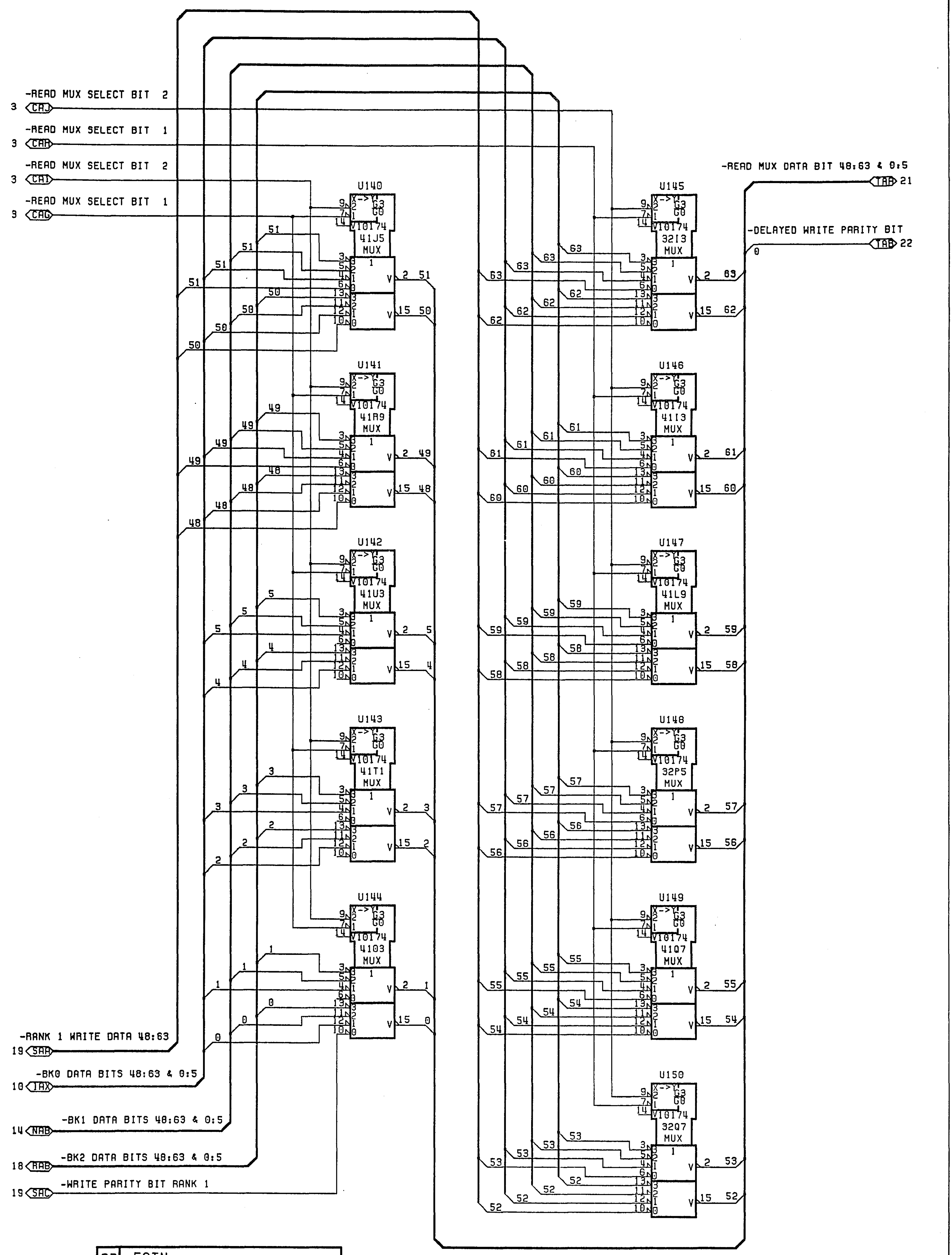


CONTROL DATA

PP MEMORY BOARD
RANK 1 AND
INPUT PARITY CHECK
TYPE 1KBH

B	DWG NO. 53575535	DATE 11/01/85	REV A
SHEET NO. 19	60462210	PAGE KB-19	

READ MUX



CD	FCTN
0	INPUT WRITE MUX
1	READ BANK 0
2	READ BANK 1
3	READ BANK 2

CONTROL DATA

PP MEMORY BOARD
READ MUX DATA BITS 48:63 &
SECDED BITS 0:5
TYPE 1KBH

B

DWG NO. 53575535

DATE 11/01/85

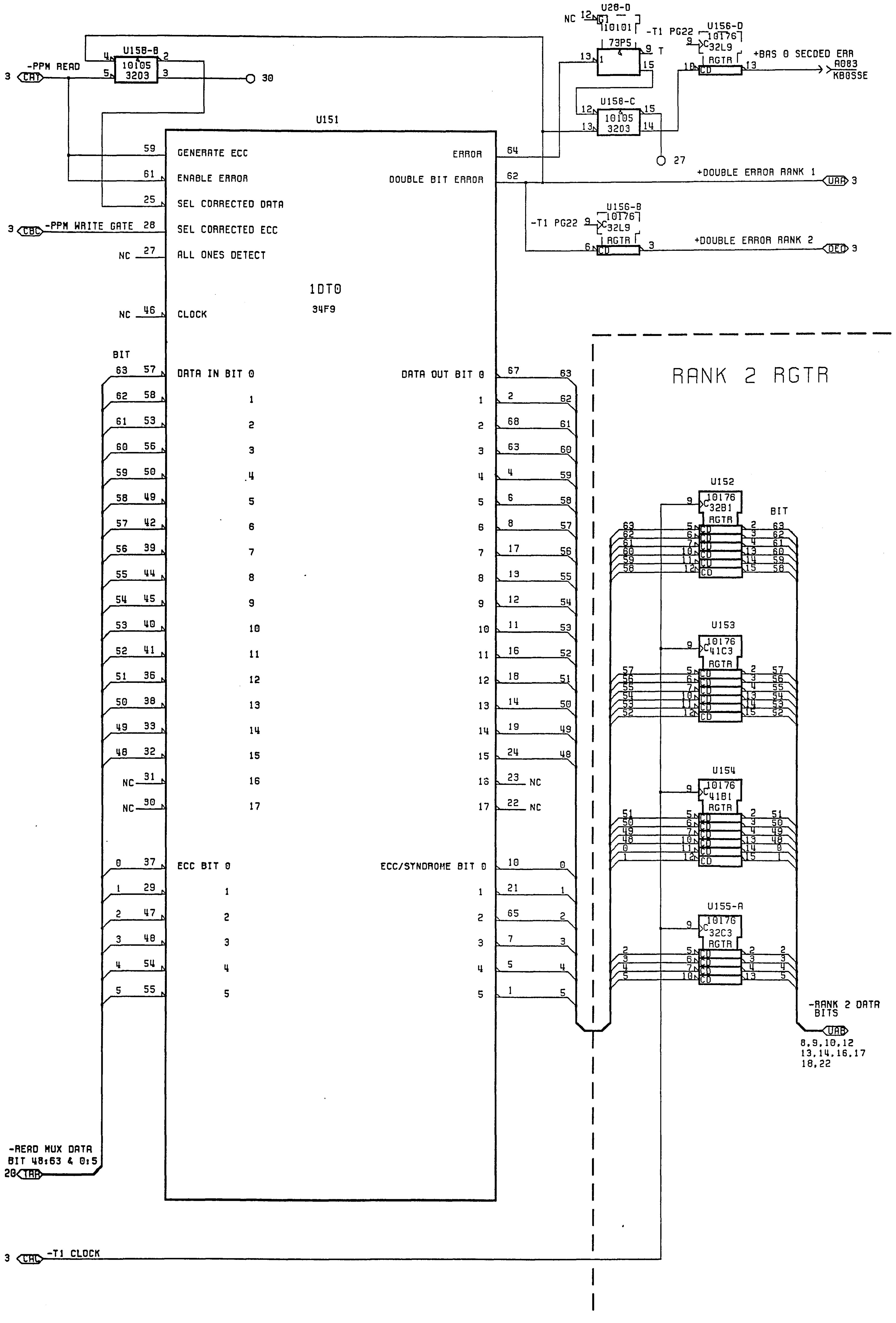
REV A

SHEET NO. 28

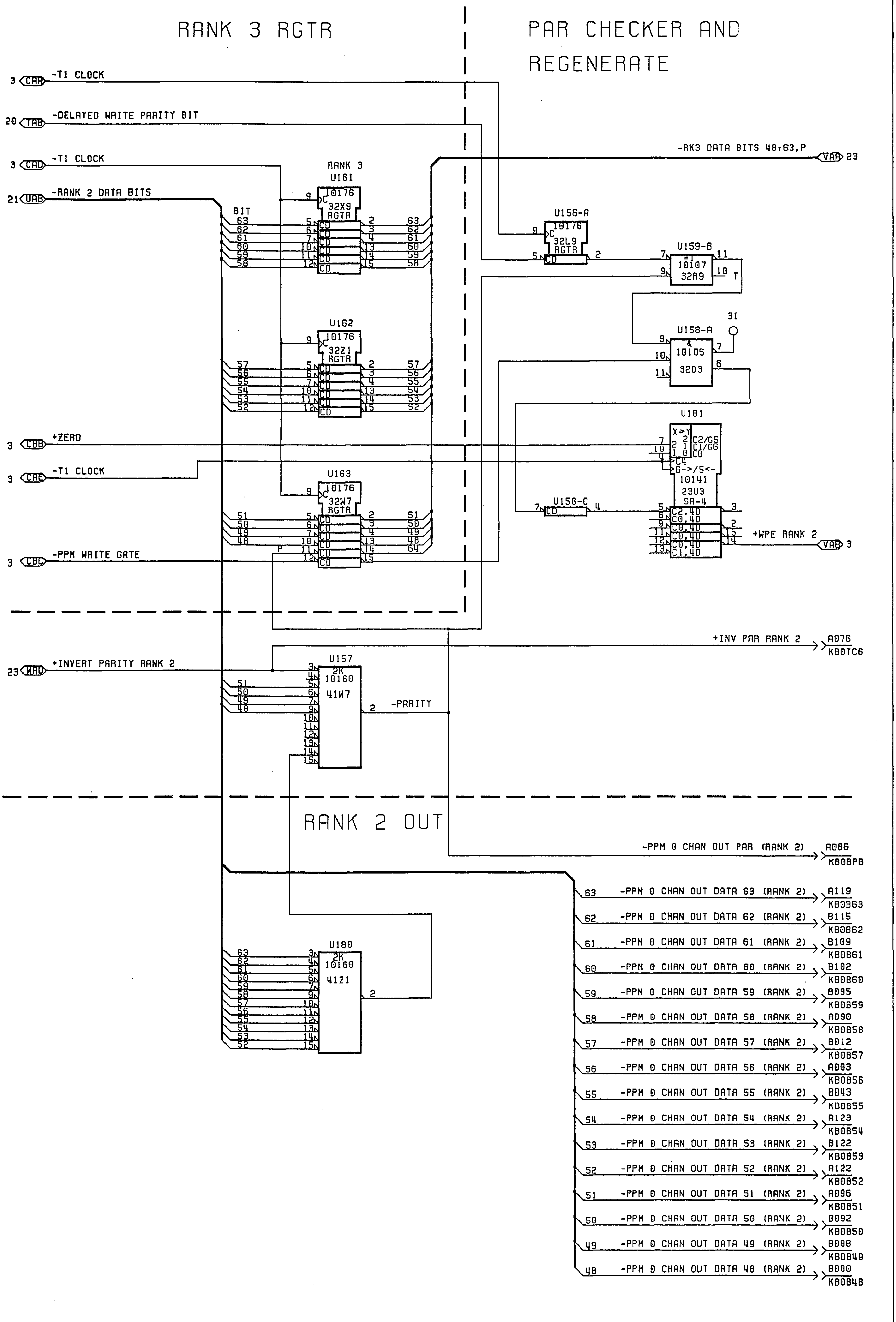
60462210

PAGE KB-28

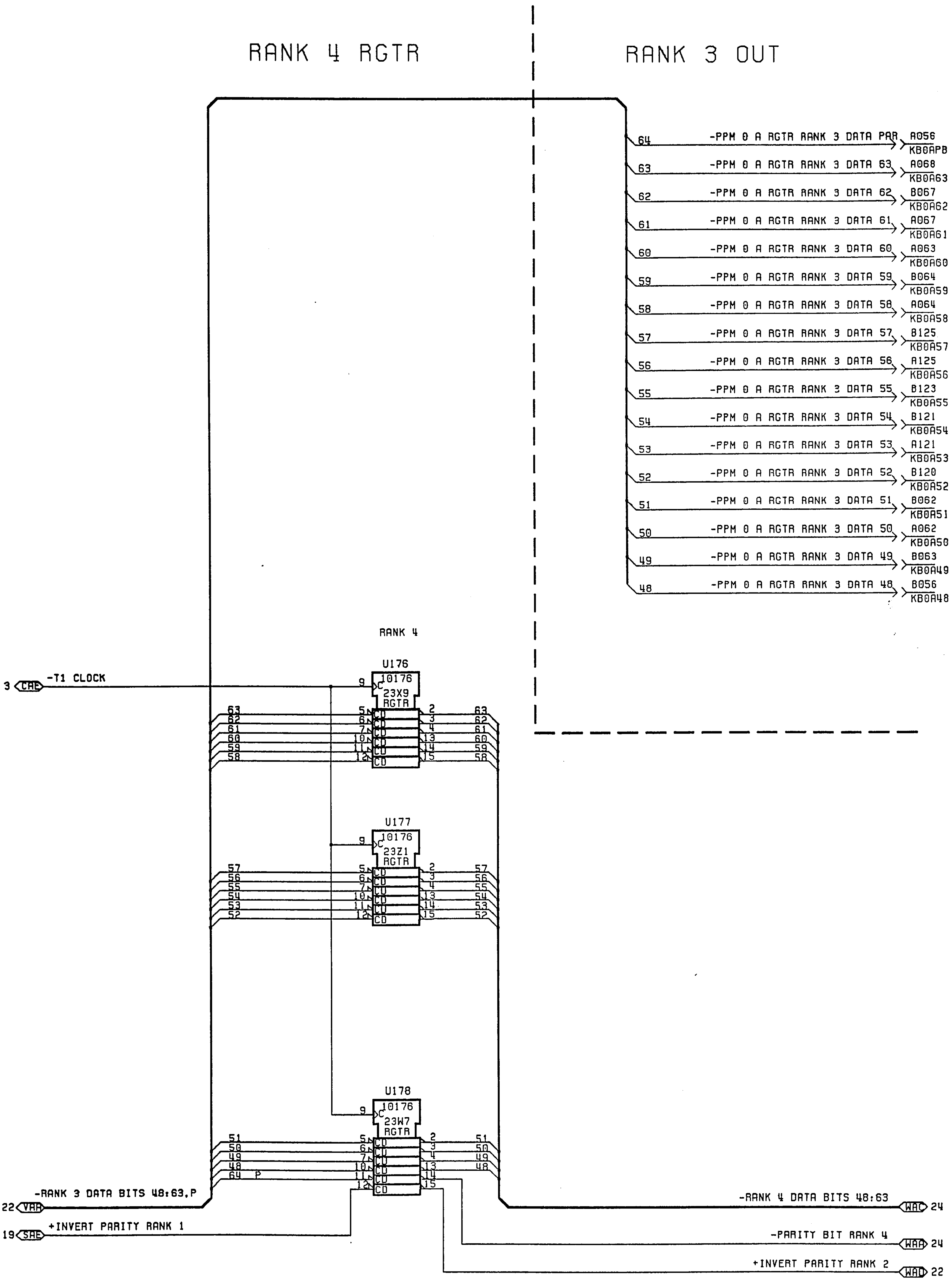
SECDED CHECKER, GEN & CORRECTION



CONTROL DATA	PP MEMORY BOARD SECDED CHECK,GEN & CORRECTION AND RANK 2 DATA TYPE 1KBH	B	DWG NO. 53575535	DATE 11/01/85	REV A
		SHEET NO. 21	60462210	PAGE KB-21	


RANK 3 RGTR
PAR CHECKER AND REGENERATE
3 CAA -T1 CLOCK
20 TAB -DELAYED WRITE PARITY BIT
3 CAD -T1 CLOCK
21 UAB -RANK 2 DATA BITS
-RK3 DATA BITS 48:63,P VAB 23
RANK 3 U161 10176 32X9 RGTR
BIT 63 62 61 60 59 58
U162 10176 32Z1 RGTR
57 56 55 54 53 52
U163 10176 32W7 RGTR
51 50 49 48 64 P
U156-A 10176 32L9 RGTR
U159-B 10107 32A9
U158-A 10105 3203
31
U181 X>Y C2/G5 C1/G6 C0 C4 6->/5<- 10141 23U3 SR-4
U156-C
+WPE RANK 2 VAB 3
3 CBB +ZERO
3 CAE -T1 CLOCK
3 CBC -PPM WRITE GATE
+INV PAR RANK 2 A076 KB0TC6
23 WAD +INVERT PARITY RANK 2
U157 2K 10160 41W7
-PARITY
RANK 2 OUT
-PPM 0 CHAN OUT PAR (RANK 2) A086 KB0BPB
U180 2K 10160 41Z1
63 -PPM 0 CHAN OUT DATA 63 (RANK 2) A119 KB0B63
62 -PPM 0 CHAN OUT DATA 62 (RANK 2) B115 KB0B62
61 -PPM 0 CHAN OUT DATA 61 (RANK 2) B109 KB0B61
60 -PPM 0 CHAN OUT DATA 60 (RANK 2) B102 KB0B60
59 -PPM 0 CHAN OUT DATA 59 (RANK 2) B095 KB0B59
58 -PPM 0 CHAN OUT DATA 58 (RANK 2) A090 KB0B58
57 -PPM 0 CHAN OUT DATA 57 (RANK 2) B012 KB0B57
56 -PPM 0 CHAN OUT DATA 56 (RANK 2) A003 KB0B56
55 -PPM 0 CHAN OUT DATA 55 (RANK 2) B043 KB0B55
54 -PPM 0 CHAN OUT DATA 54 (RANK 2) A123 KB0B54
53 -PPM 0 CHAN OUT DATA 53 (RANK 2) B122 KB0B53
52 -PPM 0 CHAN OUT DATA 52 (RANK 2) A122 KB0B52
51 -PPM 0 CHAN OUT DATA 51 (RANK 2) A096 KB0B51
50 -PPM 0 CHAN OUT DATA 50 (RANK 2) B092 KB0B50
49 -PPM 0 CHAN OUT DATA 49 (RANK 2) B088 KB0B49
48 -PPM 0 CHAN OUT DATA 48 (RANK 2) B000 KB0B48

CONTROL DATA	PP MEMORY BOARD RANK 3. PAR CHECK & REGENERATE AND RANK 2 OUTPUT TYPE 1KBH	B	DWG NO. 53575535	DATE 11/01/85	REV A
		N	SHEET NO. 22	60462210	PAGE KB-22


RANK 4 RGTR
RANK 3 OUT
64 -PPM 0 A RGTR RANK 3 DATA PAR A056 KB0APB
63 -PPM 0 A RGTR RANK 3 DATA 63 A068 KB0A63
62 -PPM 0 A RGTR RANK 3 DATA 62 B067 KB0A62
61 -PPM 0 A RGTR RANK 3 DATA 61 A067 KB0A61
60 -PPM 0 A RGTR RANK 3 DATA 60 A063 KB0A60
59 -PPM 0 A RGTR RANK 3 DATA 59 B064 KB0A59
58 -PPM 0 A RGTR RANK 3 DATA 58 A064 KB0A58
57 -PPM 0 A RGTR RANK 3 DATA 57 B125 KB0A57
56 -PPM 0 A RGTR RANK 3 DATA 56 A125 KB0A56
55 -PPM 0 A RGTR RANK 3 DATA 55 B123 KB0A55
54 -PPM 0 A RGTR RANK 3 DATA 54 B121 KB0A54
53 -PPM 0 A RGTR RANK 3 DATA 53 A121 KB0A53
52 -PPM 0 A RGTR RANK 3 DATA 52 B120 KB0A52
51 -PPM 0 A RGTR RANK 3 DATA 51 B062 KB0A51
50 -PPM 0 A RGTR RANK 3 DATA 50 A062 KB0A50
49 -PPM 0 A RGTR RANK 3 DATA 49 B063 KB0A49
48 -PPM 0 A RGTR RANK 3 DATA 48 B056 KB0A48
RANK 4
U176
10176
23X9
RGTR
3 CAE -T1 CLOCK
U177
10176
23Z1
RGTR
U178
10176
23W7
RGTR
63 62 61 60 59 58
57 56 55 54 53 52
51 50 49 48 64 P
-RANK 3 DATA BITS 48:63,P
22 VAA
+INVERT PARITY RANK 1
19 SAE
-RANK 4 DATA BITS 48:63
WAC 24
-PARITY BIT RANK 4
WAA 24
+INVERT PARITY RANK 2
WAD 22

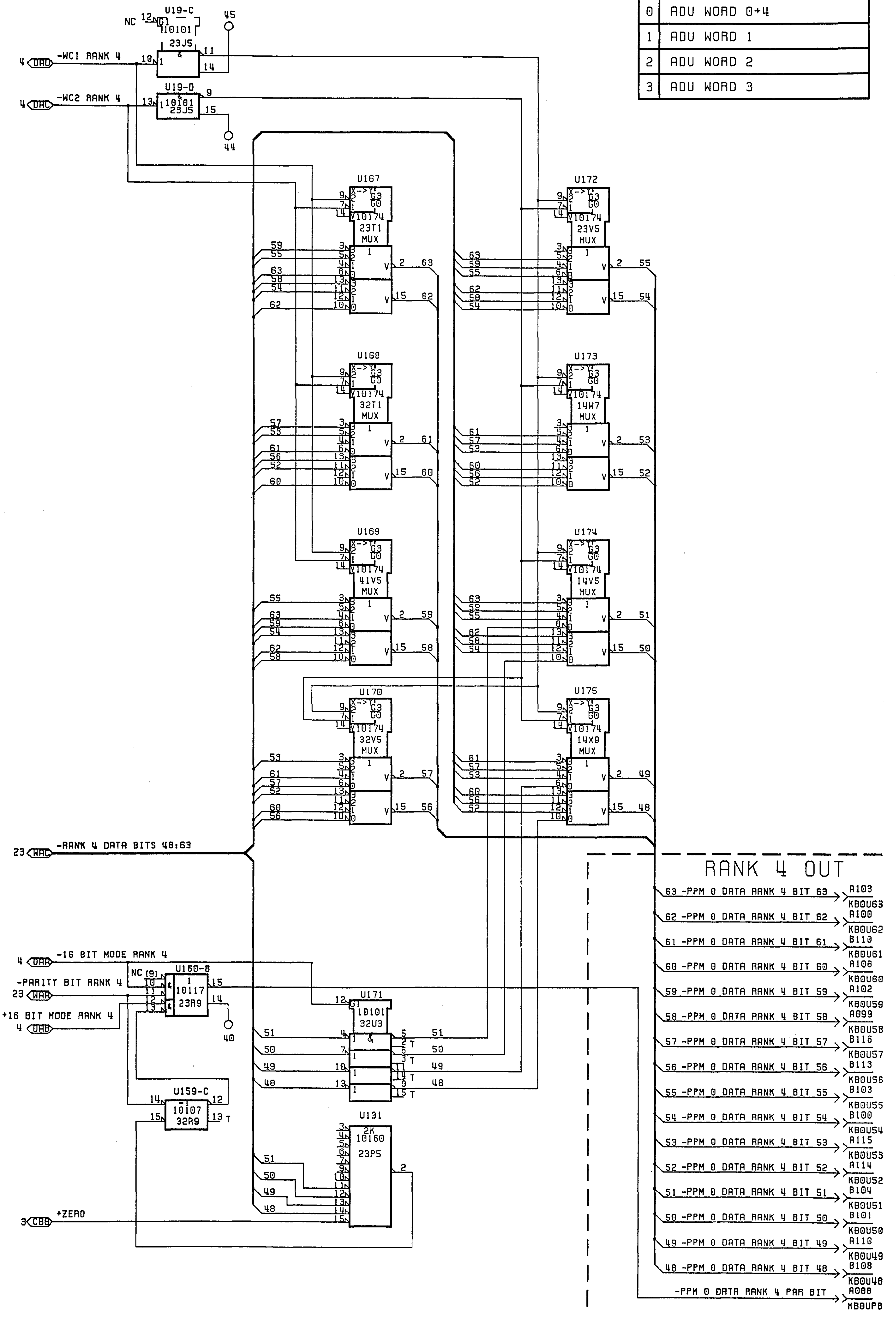
CONTROL DATA

PP MEMORY BOARD
RANK 4 AND
RANK 3 OUTPUT
TYPE 1KBH

B	DWG NO. 53575535	DATE 11/01/85	REV A	
N	SHEET NO. 23	60462210	PAGE KB-29	

ASSEMBLY / DISASSEMBLY MUX

CD	FCTN
0	ADU WORD 0+4
1	ADU WORD 1
2	ADU WORD 2
3	ADU WORD 3


U19-C
10101
23J5
NC
45
4 DAD -WC1 RANK 4
U19-D
10101
23J5
44
4 DAC -WC2 RANK 4
U167 10174 23T1 MUX
U168 10174 32T1 MUX
U169 10174 41V5 MUX
U170 10174 32V5 MUX
U172 10174 23V5 MUX
U173 10174 14W7 MUX
U174 10174 14V5 MUX
U175 10174 14X9 MUX
X->Y
G3
G0
23 WAC -RANK 4 DATA BITS 48:63
4 DAA -16 BIT MODE RANK 4
-PARITY BIT RANK 4
23 WAA
+16 BIT MODE RANK 4
4 DAB
U160-B
10117
23R9
40
U171
10101
32U3
U159-C
10107
32R9
U131
2K
10160
23P5
3 CBB +ZERO
RANK 4 OUT
63 -PPM 0 DATA RANK 4 BIT 63 A103 KB0U63
62 -PPM 0 DATA RANK 4 BIT 62 A100 KB0U62
61 -PPM 0 DATA RANK 4 BIT 61 B110 KB0U61
60 -PPM 0 DATA RANK 4 BIT 60 A106 KB0U60
59 -PPM 0 DATA RANK 4 BIT 59 A102 KB0U59
58 -PPM 0 DATA RANK 4 BIT 58 A099 KB0U58
57 -PPM 0 DATA RANK 4 BIT 57 B116 KB0U57
56 -PPM 0 DATA RANK 4 BIT 56 B113 KB0U56
55 -PPM 0 DATA RANK 4 BIT 55 B103 KB0U55
54 -PPM 0 DATA RANK 4 BIT 54 B100 KB0U54
53 -PPM 0 DATA RANK 4 BIT 53 A115 KB0U53
52 -PPM 0 DATA RANK 4 BIT 52 A114 KB0U52
51 -PPM 0 DATA RANK 4 BIT 51 B104 KB0U51
50 -PPM 0 DATA RANK 4 BIT 50 B101 KB0U50
49 -PPM 0 DATA RANK 4 BIT 49 A110 KB0U49
48 -PPM 0 DATA RANK 4 BIT 48 B108 KB0U48
-PPM 0 DATA RANK 4 PAR BIT A088 KB0UPB

CONTROL DATA	PP MEMORY BOARD ADU ASSEMBLY DISASSEMBLY AND RANK 4 OUTPUT TYPE 1KBH	B	DWG NO. 53575535	DATE 11/01/85	REV A
		SHEET NO. 24	60462210	PAGE KB-24	

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01			27	21	-SINGLE SECDED ERROR
02			28		
03	02	-BANK CONTROL RESET	29	03	+RD MUX SEL BIT 2
04	03	-T1 CLOCK	30	21	+READ CORRECTED DATA
05	02	+PP RECONFIG BIT 63	31	22	-PAR ERROR ON WRITE
06	02	+PP RECONFIG BIT 62	32		
07	02	+PP RECONFIG BIT 61	33		
08	02	+MAINT CH SEL BIT 0	34	03	+RD MUX SEL BIT 1
09	02	+MAINT CH SEL BIT 1	35	19	+RANK1 DATA BIT 51
10			36	19	+RANK1 DATA BIT 50
11			37	19	+RANK1 DATA BIT 49
12	04	+DISABLE SECED GEN	38	19	+RANK1 DATA BIT 48
13	03	-BANK 0 WRITE	39	19	+DATA IN PAR ERROR
14	04	+WD CT SEL BIT 63	40	24	+ADU OUTPUT PAR BIT
15	04	-WD CT SEL BIT 61	41	19	+WRITE PAR BIT RANK1
16	03	-BANK 2 WRITE	42		
17	04	+16 BIT MODE	43	05	-Y MUX BIT 55
18	03	-CHANNEL SELECT	44	24	+ADU OUTPUT SEL BT 1
19	04	-WD CT SEL BIT 62	45	24	+ADU OUTPUT SEL BT 2
20	11	-ADDRESS PE RANK 1	46	04	-Y MUX SEL BIT 1
21			47	03	-BANK 1 WRITE
22	03	-WRITE PP MEMORY	48		
23			49		
24			50		
25			51		
26					

CONNECTOR PINS	
GND	A014,B014,A024,B024,A034,B034,A054,B054,A065, B065,A066,B066,A077,B077,A097,B097,A107, B107,A117,B117
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	A061,B061,A070,B070
TERM	B003,A004,B004,A005,B005,A006,A010 A011,B011,A094
UNUSED	B075

CONTROL DATA

PP MEMORY BOARD
TESTPOINTS & SIGNAL NAMES
AND CONNECTOR PINS
TYPE 1KBH

N

B	DWG NO. 53575535	DATE 11/01/85	REV A	
SHEET NO. 25	60462210	PAGE KB-25		

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1HRH AC RI BOARD

REVISION HISTORY B/M 41655901			
DATE	REV	DESCRIPTION OF CHANGE	INIT
11/13/87	A	CLASS A RELEASE OF LOGIC DIAGRAMS	DRF
04/05/88	B	ECO #49488 PAGES 5,6,7,8 & 10	

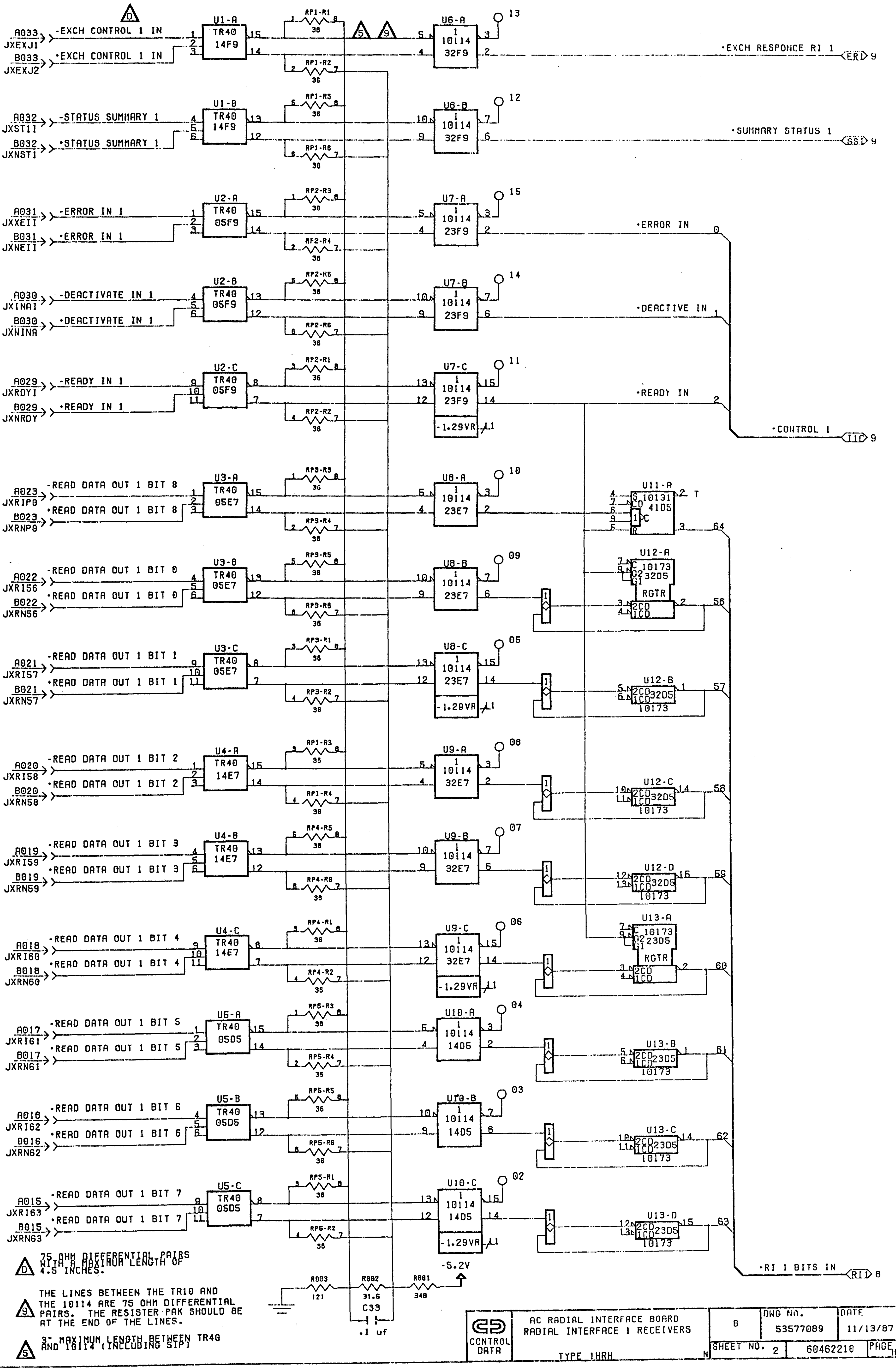
NOTE: THIS BOARD MAY NOT FUNCTION
WHEN EXTENDED

LOC: B21

DWN	D A ZAHALAN	12/24/86
CHKD	D.R. FORD	02/09/88
ENG	D.R. FORD	02/15/88
PUBS	N.A. ANDERSON	02/15/88
APP	D.R. FORD	02/15/88

CONTROL DATA	REVISION HISTORY AC RADIAL INTERFACE BOARD TYPE 1HRH	B	DWG NO. 53577089	DATE 04/05/88	REV B
			SHEET NO. 1	60462210	PAGE HR-01

RADIAL INTERFACE 1 RECEIVERS



A033 JXEXJ1 -EXCH CONTROL 1 IN
B033 JXEXJ2 +EXCH CONTROL 1 IN
U1-A TR40 14F9
U6-A 10114 32F9
+EXCH RESPONCE RI 1 ERD 9
A032 JXSTI1 -STATUS SUMMARY 1
B032 JXNSTI +STATUS SUMMARY 1
U1-B TR40 14F9
U6-B 10114 32F9
+SUMMARY STATUS 1 SS 9
A031 JXXEI1 -ERROR IN 1
B031 JXNEI1 +ERROR IN 1
U2-A TR40 05F9
U7-A 10114 23F9
+ERROR IN 0
A030 JXINA1 -DEACTIVATE IN 1
B030 JXNINA +DEACTIVATE IN 1
U2-B TR40 05F9
U7-B 10114 23F9
+DEACTIVE IN 1
A029 JXRDY1 -READY IN 1
B029 JXNRDY +READY IN 1
U2-C TR40 05F9
U7-C 10114 23F9
-1.29VR
+READY IN 2
+CONTROL 1 I1 9
A023 JXRIP0 -READ DATA OUT 1 BIT 0
B023 JXRNP0 +READ DATA OUT 1 BIT 0
U3-A TR40 05E7
U8-A 10114 23E7
U11-A 10131 41D5
A022 JXRI56 -READ DATA OUT 1 BIT 0
B022 JXRN56 +READ DATA OUT 1 BIT 0
U3-B TR40 05E7
U8-B 10114 23E7
U12-A 10173 32D5 RGTR
A021 JXRI57 -READ DATA OUT 1 BIT 1
B021 JXRN57 +READ DATA OUT 1 BIT 1
U3-C TR40 05E7
U8-C 10114 23E7
U12-B 32D5 10173
A020 JXRI58 -READ DATA OUT 1 BIT 2
B020 JXRN58 +READ DATA OUT 1 BIT 2
U4-A TR40 14E7
U9-A 10114 32E7
U12-C 32D5 10173
A019 JXRI59 -READ DATA OUT 1 BIT 3
B019 JXRN59 +READ DATA OUT 1 BIT 3
U4-B TR40 14E7
U9-B 10114 32E7
U12-D 32D5 10173
A018 JXRI60 -READ DATA OUT 1 BIT 4
B018 JXRN60 +READ DATA OUT 1 BIT 4
U4-C TR40 14E7
U9-C 10114 32E7
U13-A 10173 23D5 RGTR
A017 JXRI61 -READ DATA OUT 1 BIT 5
B017 JXRN61 +READ DATA OUT 1 BIT 5
U5-A TR40 05D5
U10-A 10114 14D5
U13-B 23D5 10173
A016 JXRI62 -READ DATA OUT 1 BIT 6
B016 JXRN62 +READ DATA OUT 1 BIT 6
U5-B TR40 05D5
U10-B 10114 14D5
U13-C 23D5 10173
A015 JXRI63 -READ DATA OUT 1 BIT 7
B015 JXRN63 +READ DATA OUT 1 BIT 7
U5-C TR40 05D5
U10-C 10114 14D5
U13-D 23D5 10173
+RI 1 BITS IN RI 8
RP1-R1 RP1-R2 RP1-R5 RP1-R6 RP2-R3 RP2-R4 RP2-R5 RP2-R6 RP2-R1 RP2-R2 RP3-R3 RP3-R4 RP3-R5 RP3-R6 RP3-R1 RP3-R2 RP1-R3 RP1-R4 RP4-R5 RP4-R6 RP4-R1 RP4-R2 RP5-R3 RP5-R4 RP5-R5 RP5-R6 RP5-R1 RP6-R2
36
R003 121
R002 31.6
R001 348
C33 .1 uf
-5.2V
13 12 15 14 11 10 09 05 08 07 06 04 03 02
64 56 57 58 59 60 61 62 63

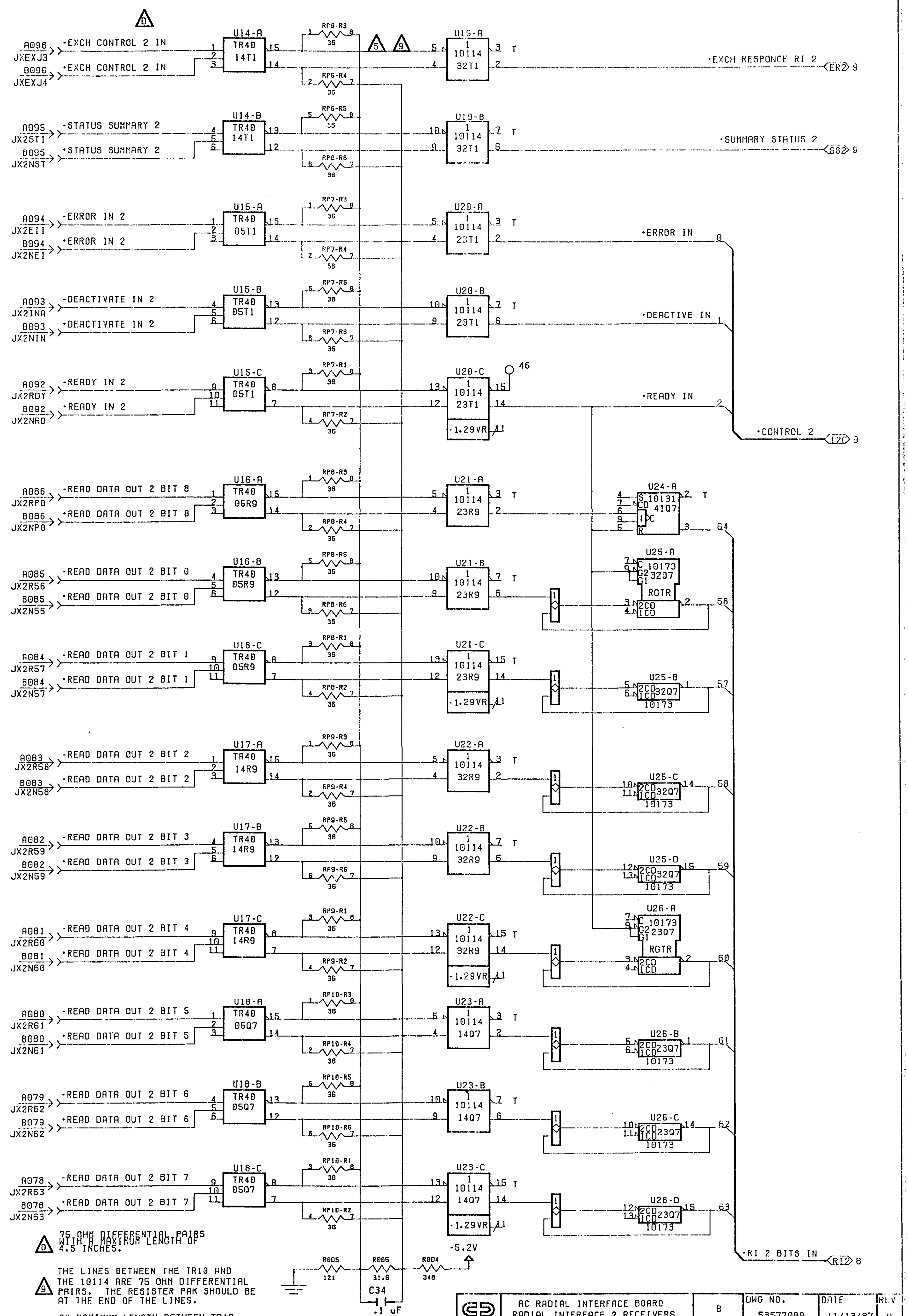
D 75 OHM DIFFERENTIAL PAIRS WITH A MAXIMUM LENGTH OF 4.5 INCHES.

9 THE LINES BETWEEN THE TR10 AND THE 10114 ARE 75 OHM DIFFERENTIAL PAIRS. THE RESISTER PAK SHOULD BE AT THE END OF THE LINES.

5 3" MAXIMUM LENGTH BETWEEN TR40 AND 10114 (INCLUDING SIP)

CONTROL DATA	AC RADIAL INTERFACE BOARD RADIAL INTERFACE 1 RECEIVERS TYPE 1HRH	B	DWG NO. 53577089	DATE 11/13/87	REV A
		SHEET NO. 2	60462210	PAGE HR-02	

RADIAL INTERFACE 2 RECEIVERS



△D 75 OHM DIFFERENTIAL PAIRS WITH A MAXIMUM LENGTH OF 4.5 INCHES.

△9 THE LINES BETWEEN THE TR10 AND THE 10114 ARE 75 OHM DIFFERENTIAL PAIRS. THE RESISTER PAK SHOULD BE AT THE END OF THE LINES.

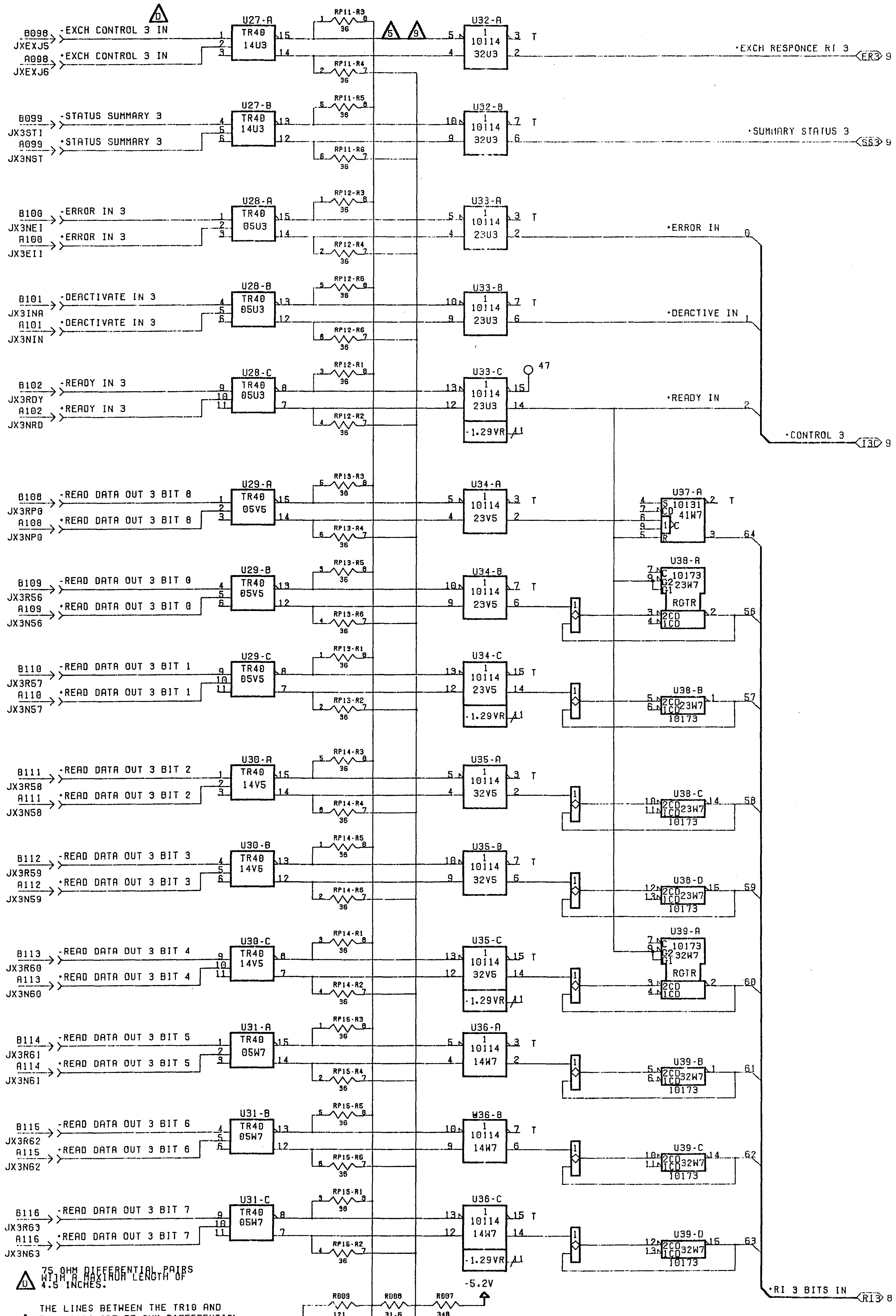
△5 3" MAXIMUM LENGTH BETWEEN TR40 AND 10114 (INCLUDING SIP)

CONTROL DATA

AC RADIAL INTERFACE BOARD
RADIAL INTERFACE 2 RECEIVERS
TYPE 1HRH

	DWG NO.	DATE	REV
B	53577089	11/13/87	A
SHEET NO. 3	60462210	PAGE HR-03	

RADIAL INTERFACE 3 RECEIVERS



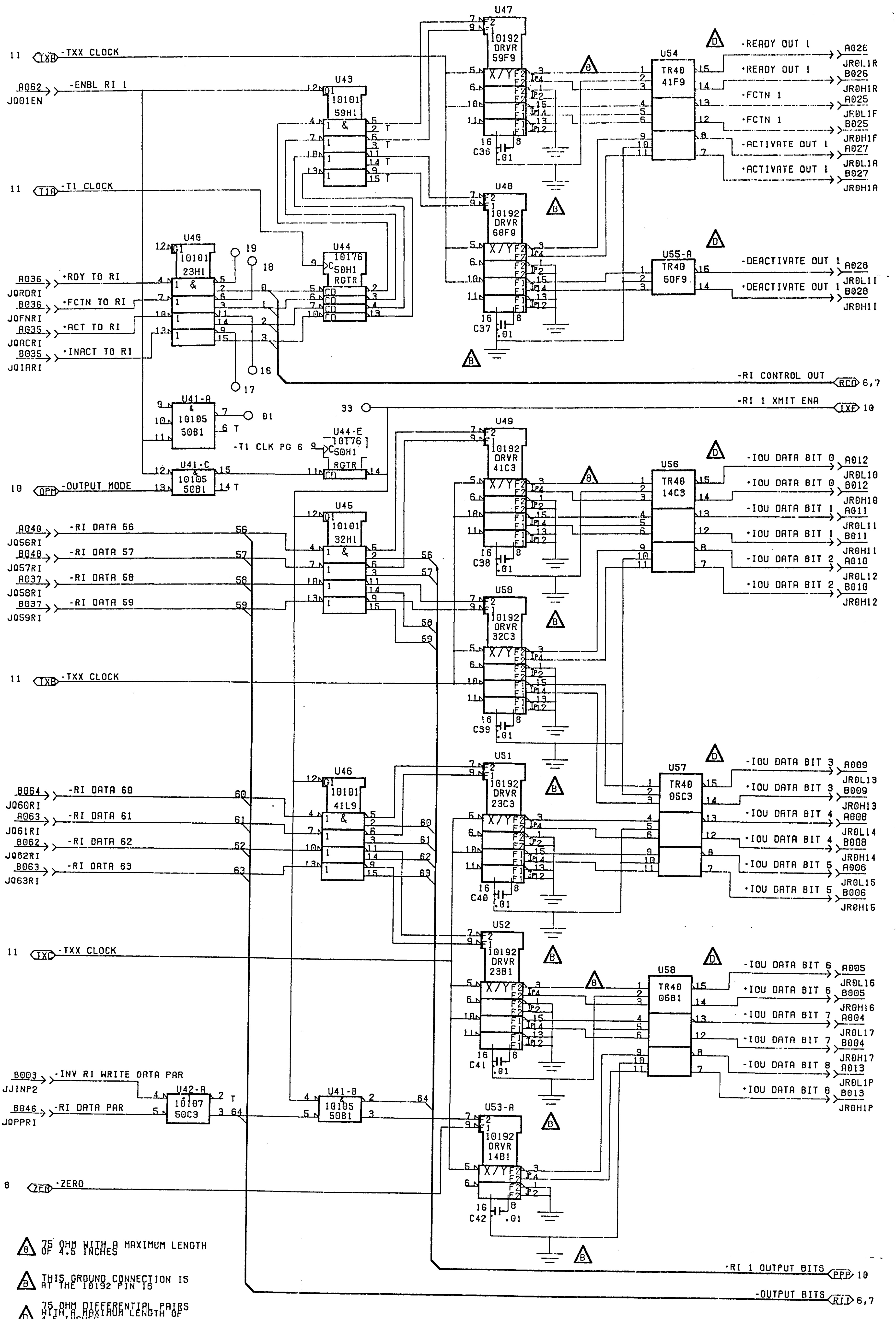
△D 75 OHM DIFFERENTIAL PAIRS WITH A MAXIMUM LENGTH OF 4.5 INCHES.

△9 THE LINES BETWEEN THE TR10 AND THE 10114 ARE 75 OHM DIFFERENTIAL PAIRS. THE RESISTER PAK SHOULD BE AT THE END OF THE LINES.

△5 3" MAXIMUM LENGTH BETWEEN TR40 AND 10114 (INCLUDING SIP)

CONTROL DATA	AC RADIAL INTERFACE BOARD RADIAL INTERFACE 3 RECEIVERS TYPE 1HRH	B	DWG NO. 53577089	DATE 11/13/87	REV A
		SHEET NO. 4	60462210	PAGE HR-04	

RADIAL INTERFACE 1 TRANSMITTERS



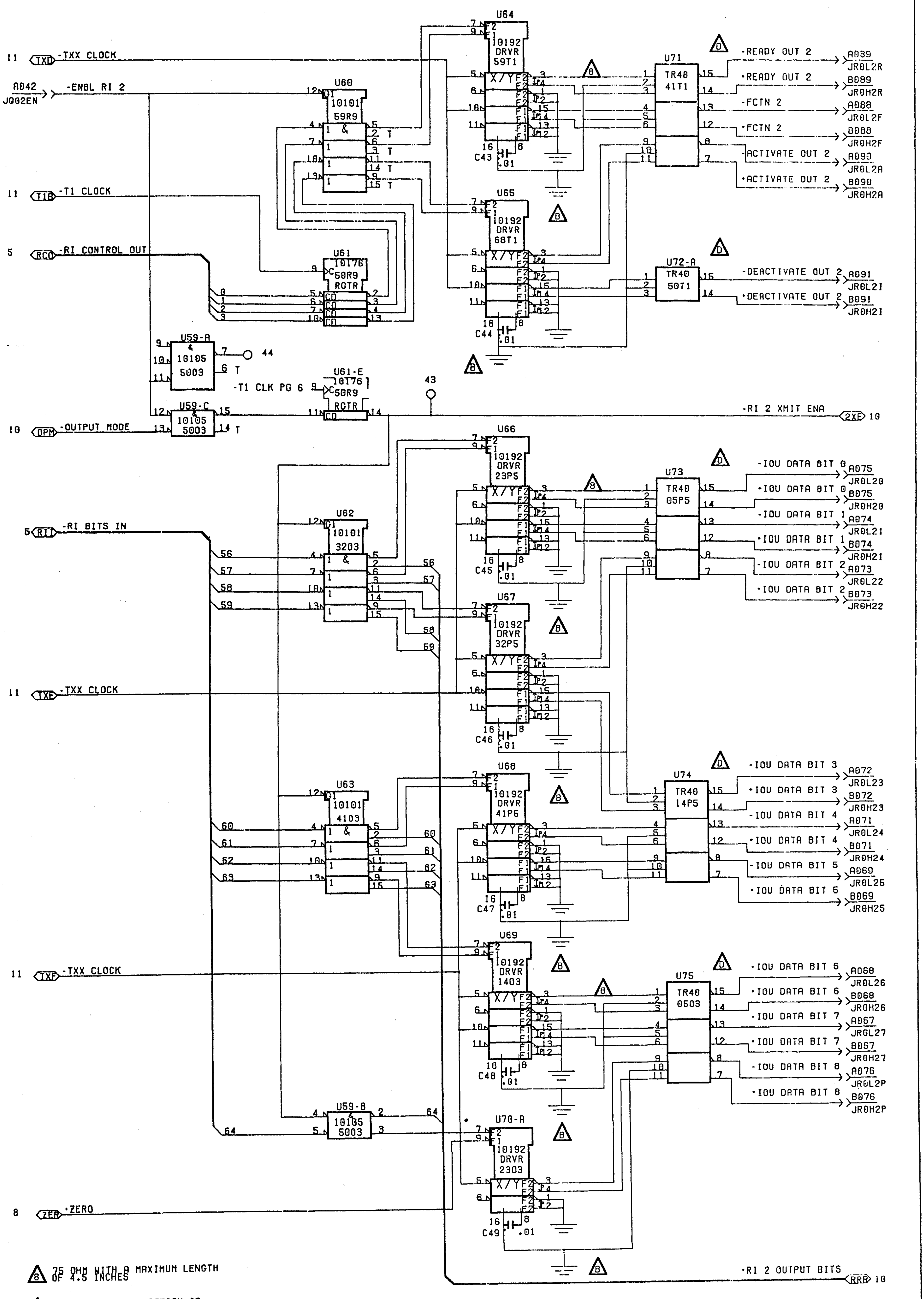
A 75 OHM WITH A MAXIMUM LENGTH OF 4.5 INCHES

B THIS GROUND CONNECTION IS AT THE 10192 PIN 16

D 75 OHM DIFFERENTIAL PAIRS WITH A MAXIMUM LENGTH OF 4.5 INCHES.

CONTROL DATA	AC RADIAL INTERFACE BOARD RADIAL INTERFACE 1 TRANSMITTERS TYPE 1HRH	B	DWG NO. 53577089	DATE 04/05/88	REV B
		N	SHEET NO. 6	60462210	PAGE HR-05

RADIAL INTERFACE 2 TRANSMITTERS



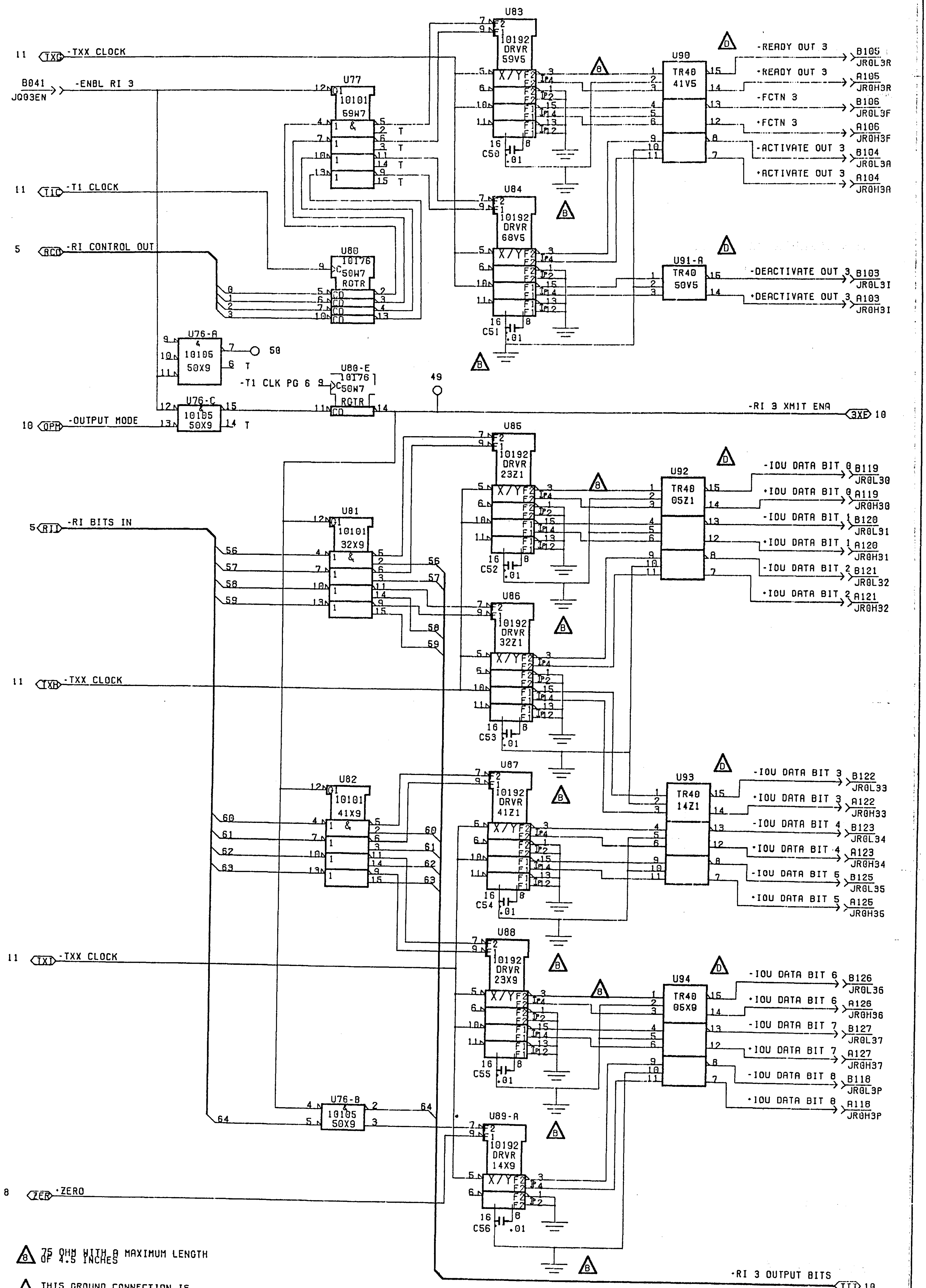
A 75 OHM WITH A MAXIMUM LENGTH OF 4.5 INCHES

B THIS GROUND CONNECTION IS AT THE 10192 PIN 16

D 75 OHM DIFFERENTIAL PAIRS WITH A MAXIMUM LENGTH OF 4.5 INCHES.

CONTROL DATA
AC RADIAL INTERFACE BOARD
RADIAL INTERFACE 2 TRANSMITTERS
TYPE 1HRH
N
B
DWG NO. 53577089
DATE 04/05/88
REV B
SHEET NO. 6
60462210
PAGE HR-06

RADIAL INTERFACE 3 TRANSMITTERS



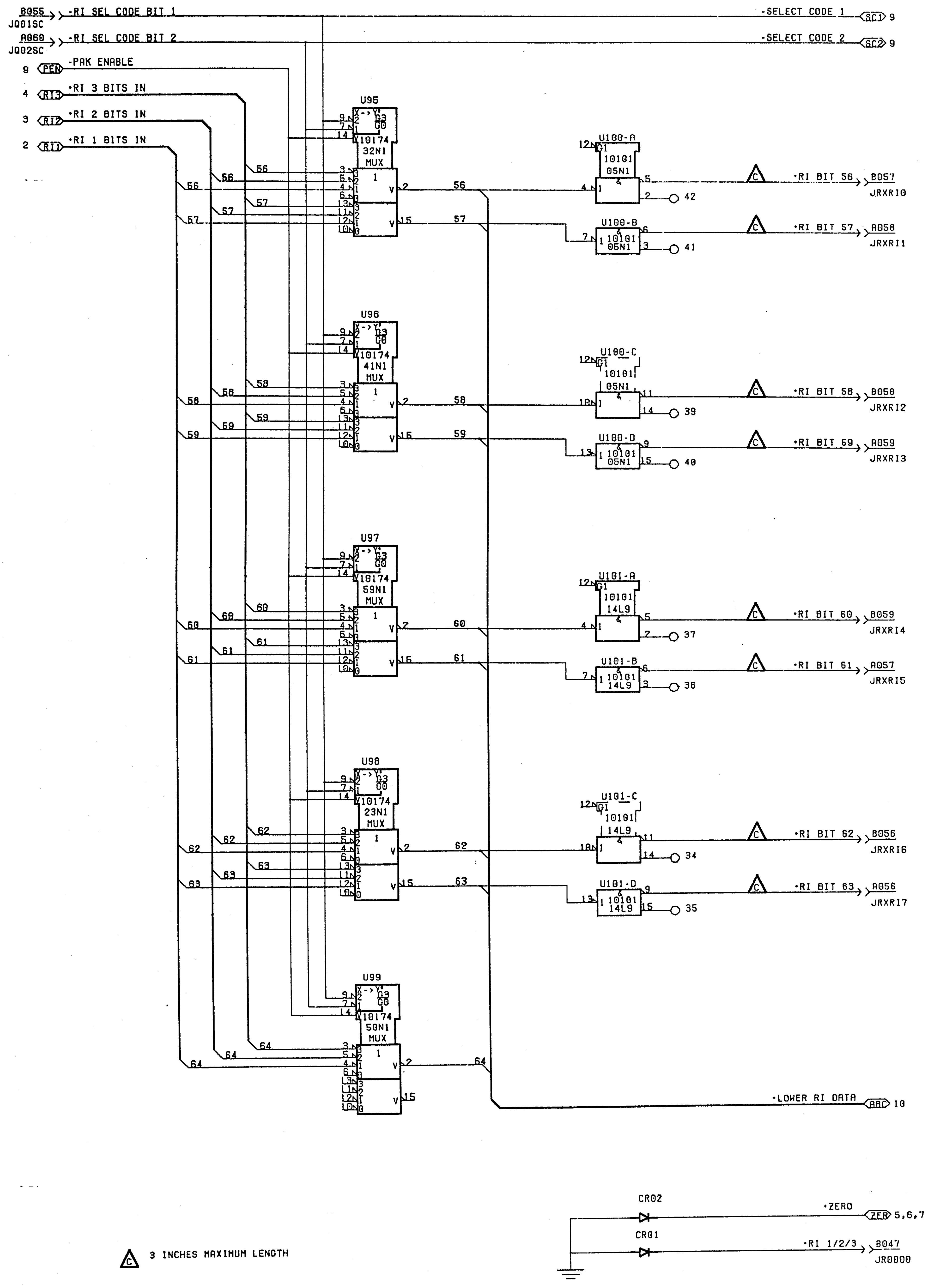
B 75 OHM WITH A MAXIMUM LENGTH OF 4.5 INCHES

B THIS GROUND CONNECTION IS AT THE 10192 PIN 16

D 75 OHM DIFFERENTIAL PAIRS WITH A MAXIMUM LENGTH OF 4.5 INCHES.

CONTROL DATA	AC RADIAL INTERFACE BOARD RADIAL INTERFACE 3 TRANSMITTERS TYPE 1HRH	B	DWG NO. 53577089	DATE 04/05/88	REV B
		N	SHEET NO. 7	60462210	PAGE HR-07

DATA INPUT MUX



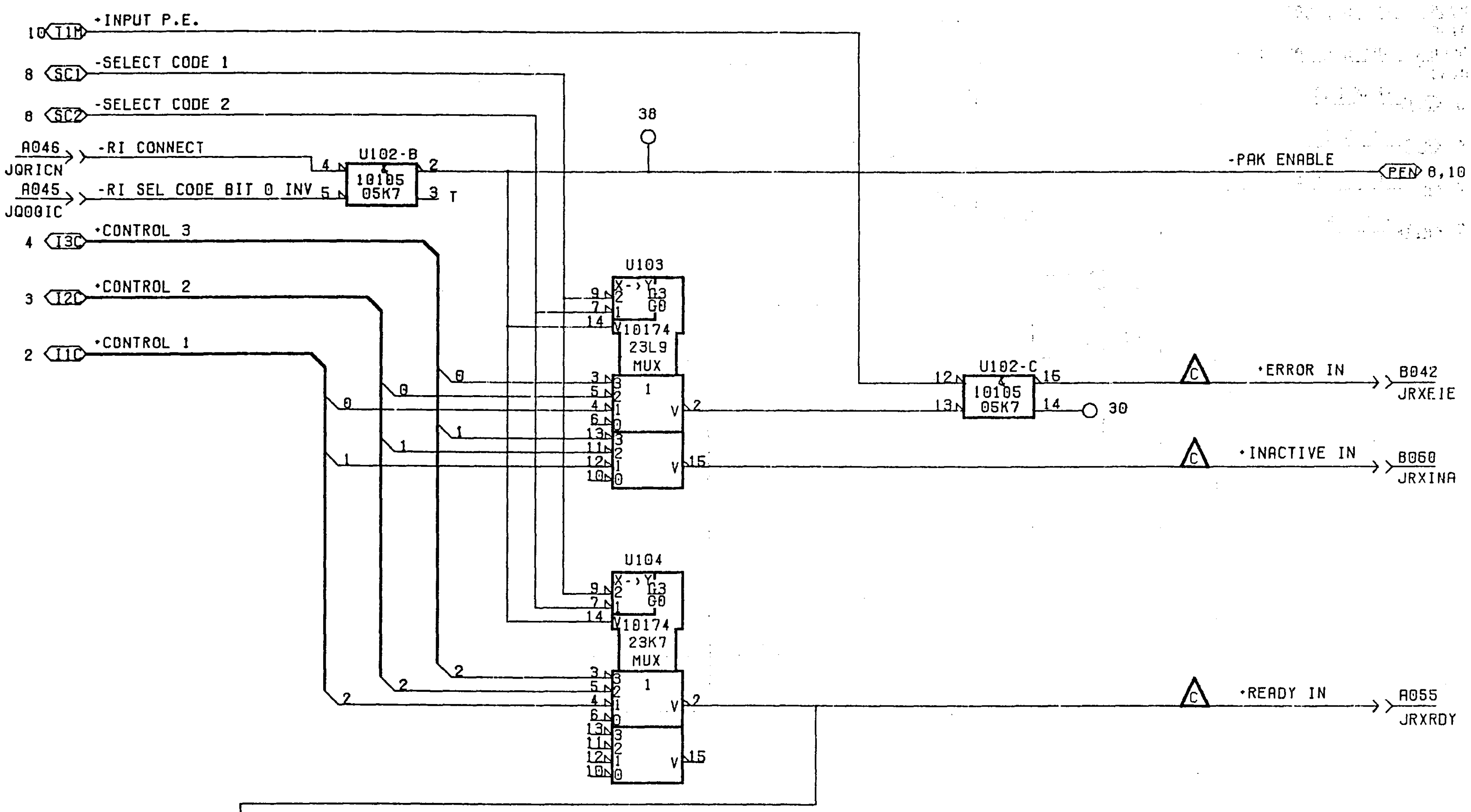
C 3 INCHES MAXIMUM LENGTH

CONTROL DATA

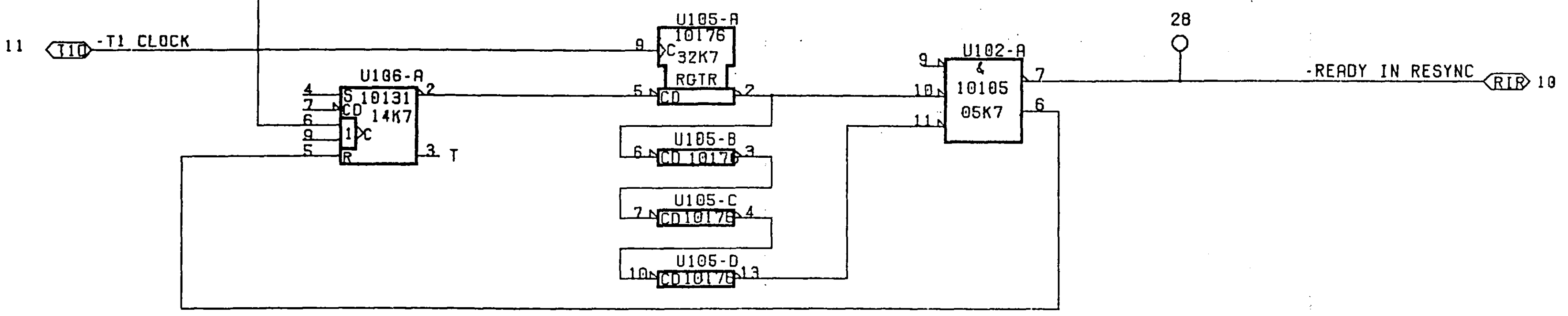
AC RADIAL INTERFACE BOARD
DATA INPUT MUX
TYPE 1HRH

B	DWG NO. 53577089	DATE 04/05/88	REV B
SHEET NO. 8	60462210	PAGE HR-08	

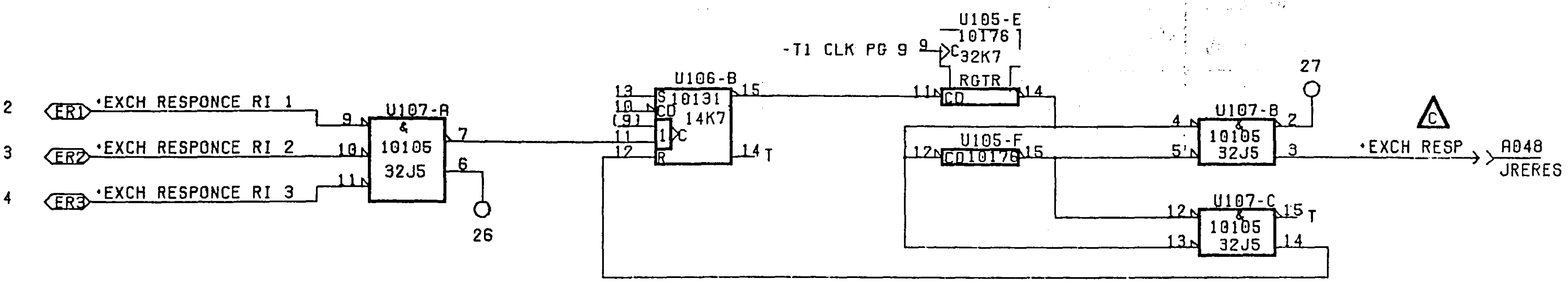
CONTROL SIGNAL INPUT MUX



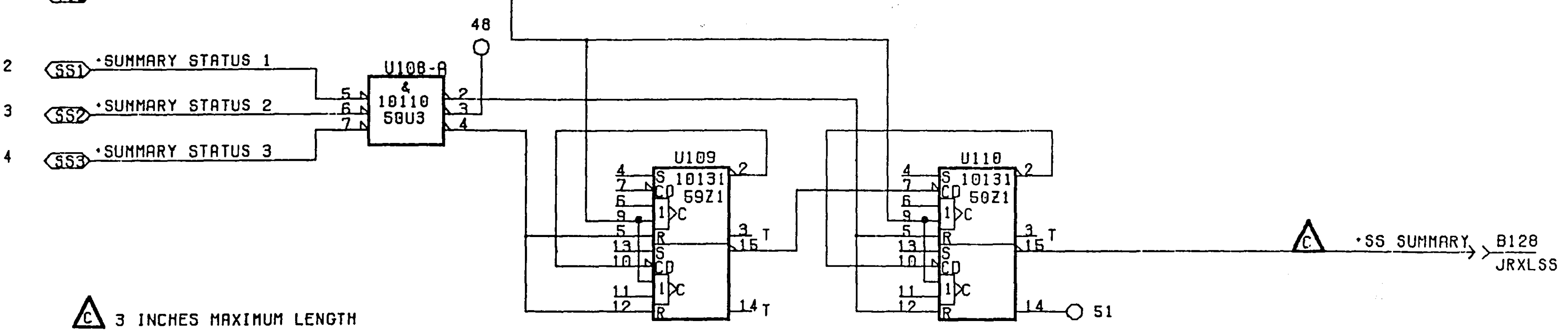
READY IN RESYNC



EXCHANGE RESPONCE RESYNC



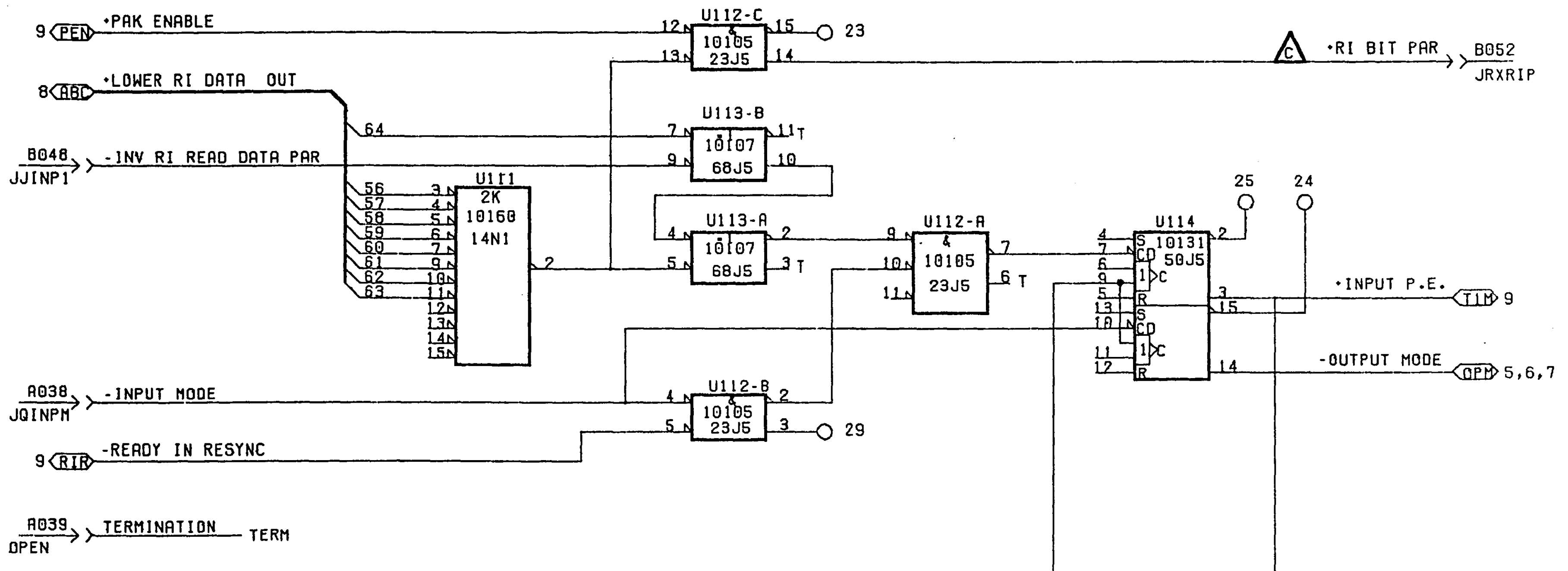
SUMMARY STATUS NETWORK



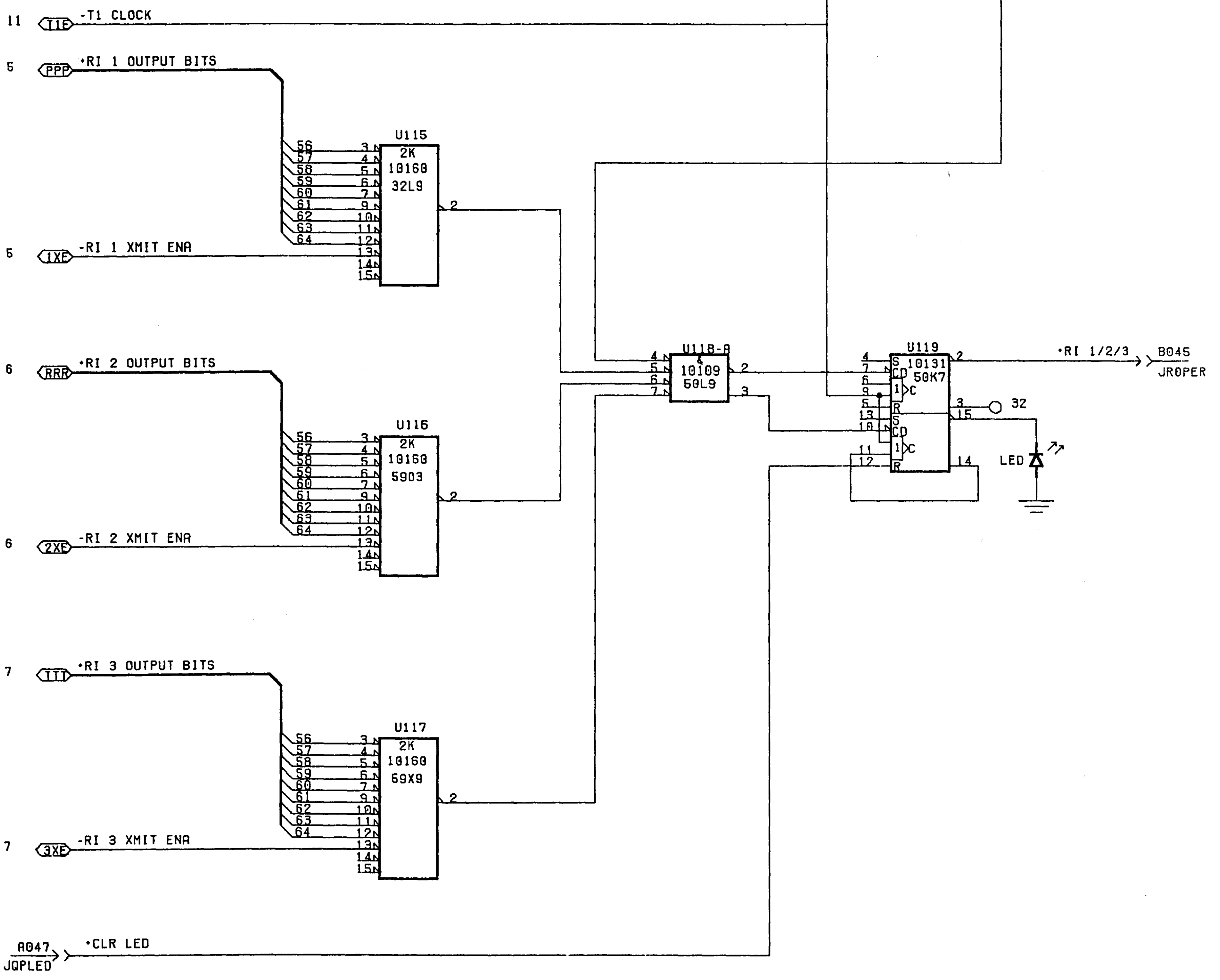
C 3 INCHES MAXIMUM LENGTH

CONTROL DATA	AC RADIAL INTERFACE BOARD CONTROL SIGNAL INPUT MUX, READY IN AND EXCH RESP RESYNC SUMMARY STATUS NETWORK TYPE 1HRH	B	DWG NO. 53577089	DATE 11/13/87	REV A
		N	SHEET NO. 9	60462210	PAGE HR 09

INPUT PARITY CHECKER



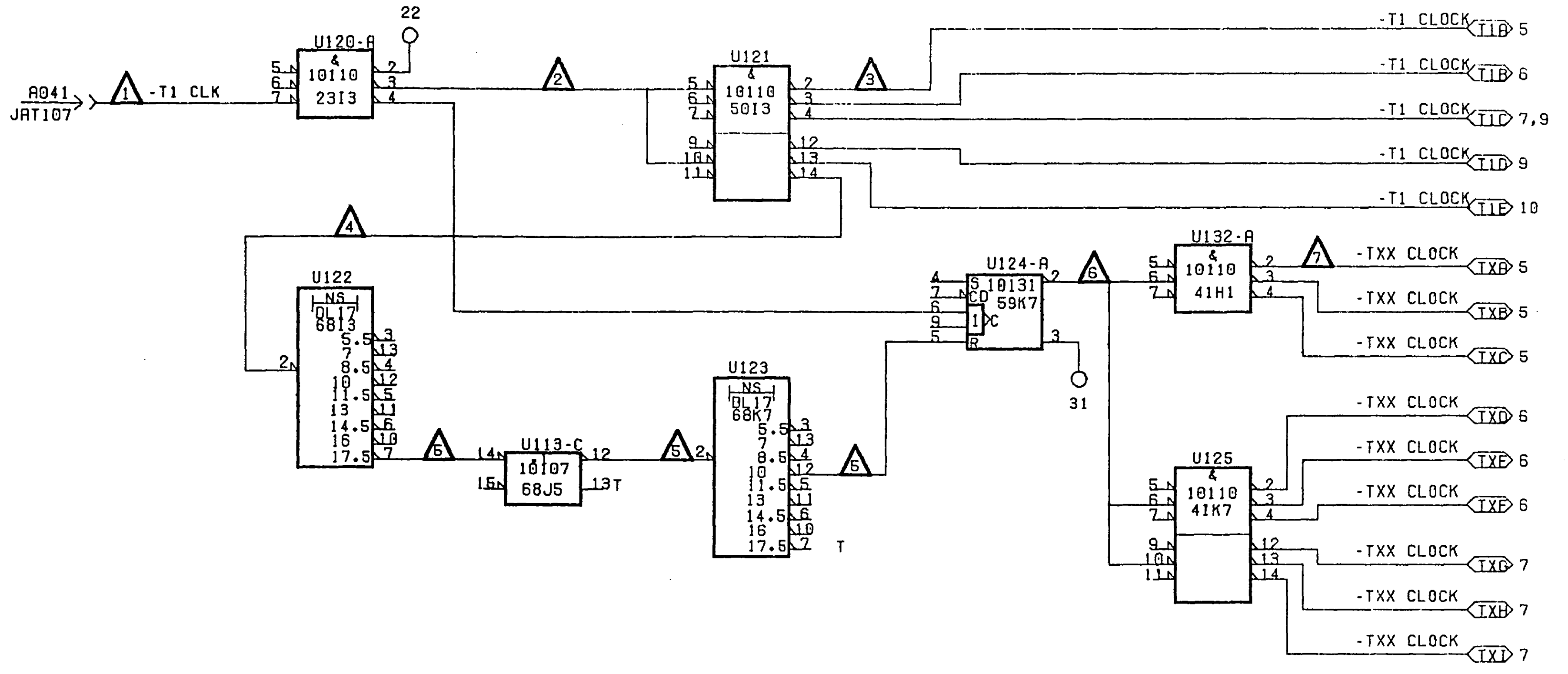
OUTPUT PARITY CHECKER



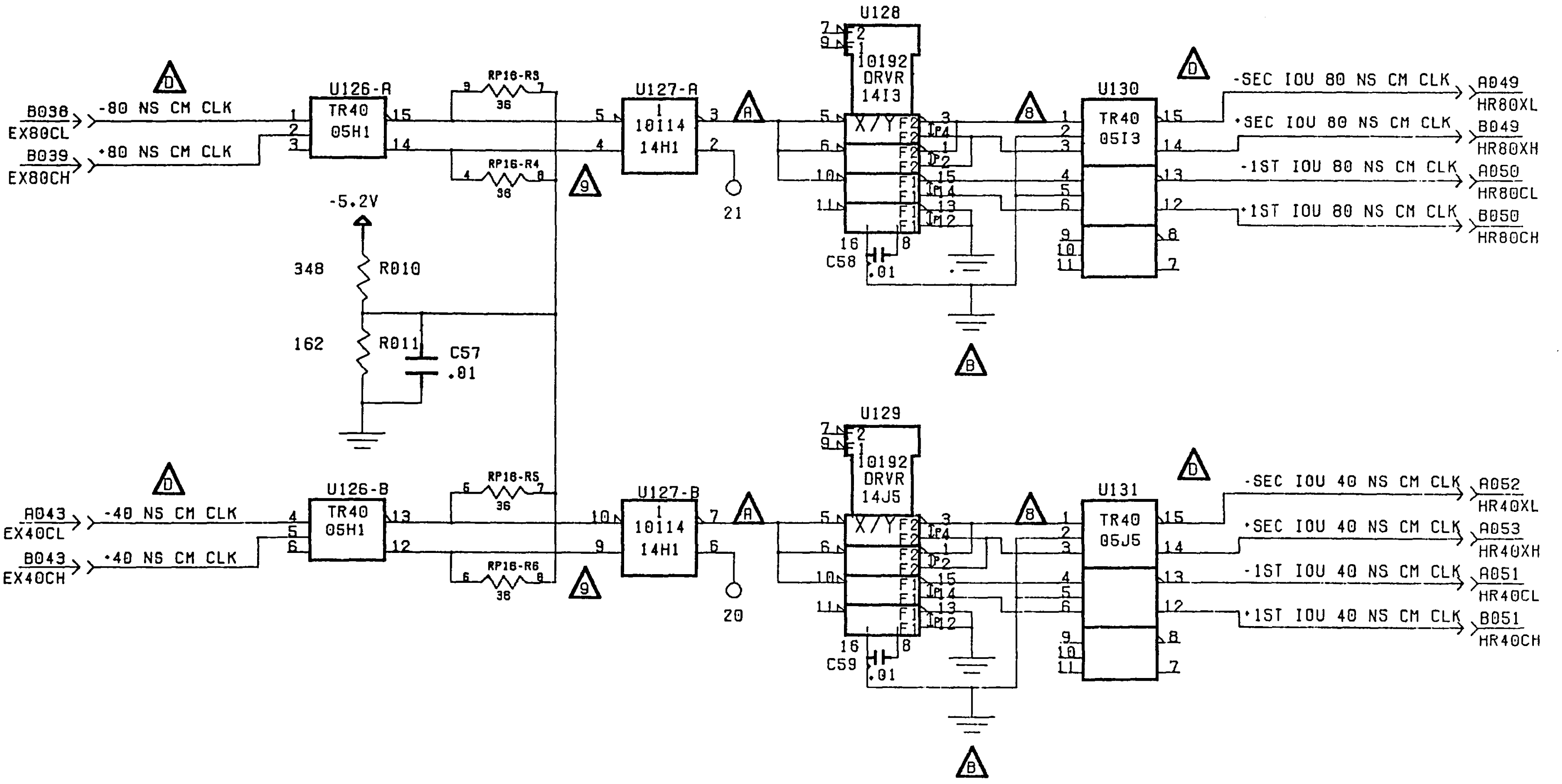
△C 3 INCHES MAXIMUM LENGTH

CONTROL DATA	AC RADIAL INTERFACE BOARD INPUT AND OUTPUT PARITY CHECKERS TYPE 1HRH	B	DWG NO. 53577089	DATE 04/05/88	REV B
		SHEET NO. 10	60462210	PAGE HR-10	

T1 AND TXX CLOCK FANOUT



CM CLOCK REPEATER



1. MAXIMUM LENGTH 4 INCHES
2. MAXIMUM LENGTH 7 INCHES
3. ALL T1 CLOCK LINES ARE 12 INCHES MAXIMUM LENGTH
4. MAXIMUM LENGTH 12 INCHES
5. MAXIMUM LENGTH 1 INCH
6. MAXIMUM LENGTH 6 INCHES
7. ALL TXX CLOCK FANOUTS MUST BE EQUAL IN LENGTH AND LESS THE 12 INCHES
8. 75 OHM WITH A MAXIMUM LENGTH OF 4.5 INCHES
9. THE LINES BETWEEN THE TR10 AND THE 10114 ARE 75 OHM DIFFERENTIAL PAIRS. THE RESISTER PAK SHOULD BE AT THE END OF THE LINES.

A. THE LINES BETWEEN THE 10114 AND THE 10192 MUST BE THE SAME LENGTH AND LESS THEN 6 INCHES

B. THIS GROUND CONNECTION IS AT PIN 16 OF THE 10192

D. 75 OHM DIFFERENTIAL PAIRS WITH A MAXIMUM LENGTH OF 4.5 INCHES

CONTROL DATA	AC RADIAL INTERFACE BOARD T1 CLOCK FANOUT, TXX CLOCK FORMATION AND CM CLOCK REPEATER TYPE 1HRH	B	DWG NO. 53577089	DATE 11/13/87	REV A
			SHEET NO. 11	60462210	PAGE HR-11

TP	SHT	SIGNAL NAME	TP	SHT	SIGNAL NAME
01	05	-ENABLE R/I 1	27	09	-EXCH RESP RESYNC
02	02	-R/I 1 BIT 63 IN	28	09	-READY IN RESYNC
03	02	-R/I 1 BIT 62 IN	29	10	+INPUT READY IN
04	02	-R/I 1 BIT 61 IN	30	09	-ERROR IN ASSYNC
05	02	-R/I 1 BIT 57 IN	31	11	+TXX CLOCK
06	02	-R/I 1 BIT 60 IN	32	10	-OUTPUT PARITY ERROR
07	02	-R/I 1 BIT 59 IN	33	05	-R/I 1 XMIT ENABLE
08	02	-R/I 1 BIT 58 IN	34	08	-R/I BIT 62 IN
09	02	-R/I 1 BIT 56 IN	35	08	-R/I BIT 63 IN
10	02	-R/I 1 PAR BIT IN	36	08	-R/I BIT 61 IN
11	02	-R/I 1 READY IN	37	08	-R/I BIT 60 IN
12	02	-R/I 1 SUM STATUS	38	09	-PAK ENABLE
13	02	-R/I 1 EXCH RESP	39	08	-R/I BIT 58 IN
14	02	-R/I 1 DEACT IN	40	08	-R/I BIT 59 IN
15	02	-R/I 1 ERROR IN	41	08	-R/I BIT 57 IN
16	05	+ACTIVATE OUT	42	08	-R/I BIT 56 IN
17	05	+INACTIVATE OUT	43	06	-R/I 2 XMIT ENABLE
18	05	+FUNCTION OUT	44	06	-ENABLE R/I 2
19	05	+READY OUT	45	,	,
20	11	-40 NS CM CLOCK	46	03	-R/I 2 READY IN
21	11	-80 NS CM CLOCK	47	04	-R/I 3 READY IN
22	11	-FIRST STAGE T1	48	09	+SUM STATUS ASSYNC
23	10	-R/I PARITY BIT IN	49	07	-R/I 3 XMIT ENABLE
24	10	-INPUT PARITY ERROR	50	07	-ENABLE R/I 3
25	10	+OUTPUT MODE	51	09	-SUM STATUS RESYNC
26	09	+EXCH RESP ASSYNC			

CONNECTOR PINS	
GND	A014,B014,A024,B024,A034,B034,A054,B054,A065,B065,A066,B066,A077,B077,A097,B097,A107,B107,A117,B117
-5.2V	A001,B001,A002,B002,A129,B129,A130,B130
-2.2V	A007,B007,A044,B044,A087,B087,A124,B124
+5V	A061,B061,A070,B070 [NOT USED]
TERM	A039
UNUSED	A003,A064,A128

CONTROL DATA

AC RADIAL INTERFACE BOARD
TESTPOINTS & SIGNAL NAMES
AND CONNECTOR PINS
TYPE 1HRH

N

B

DWG NO. 53577089

DATE 11/13/87

REV A

SHEET NO. 12

60462210

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PUBLICATION NO.: 60462210 **REVISION:** P

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